UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF MISSOURI
St. Joseph Division

CITIZENS LEGAL ENVIRONMENTAL ACTION NETWORK, INC. Plaintiff, UNITED STATES OF AMERICA Intervenor/Plaintiff, v. PREMIUM STANDARD FARMS, INC. Defendant.	)	Case No. 97-6073-CV-SJ-6

CITIZENS LEGAL ENVIRONMENTAL ACTION NETWORK, INC., Plaintiff, v. CONTINENTAL GRAIN COMPANY, INC. Defendant.	)	Case No. 98-6099-CV-W-6

CONSENT DECREE BETWEEN UNITED STATES OF AMERICA AND CITIZENS LEGAL ENVIRONMENTAL ACTION NETWORK, INC. AND PREMIUM STANDARD FARMS, INC. AND CONTINENTAL GRAIN COMPANY, INC.

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1. **Premium Standard Farms and Continental Grain Company:**

a) Premium Standard Farms, Inc. (PSF) is a pork producer with operations located in the northwest Missouri counties of Mercer, Putnam and Sullivan. PSF began its operations in 1988. In 1998, Continental Grain Company, now ContiGroup Companies (CGC), bought a controlling interest in PSF. CGC has been involved in pork production since 1985. CGC owns farms in Daviess, Gentry, Worth and Grundy counties.

b) PSF's and CGC's (Defendants') farms consist of breeding, gestation, farrowing and grow/finish facilities. Each farm consists of multiple sites, with each site having its own lagoon system. A typical site has 8 barns. Most of the lagoons treat and store effluent in a single-stage anaerobic system. Lagoon effluent is land applied using a variety of applicator techniques.

2. **State of Missouri:**

a) On July 29, 1999, in *State ex rel. Nixon v. Premium Standard Farms, Inc.*, (Cir. Ct. Mo., Jackson County, No. CV99-0745), the State of Missouri entered into a judicially approved Consent Judgment (State Consent Judgment) with PSF and CGC pursuant to which Defendants agreed to research, develop and implement Next Generation Technology at their Concentrated Animal Feeding Operations (CAFOs) in Missouri after obtaining approval from the three member management advisory team (Expert Panel) designated pursuant to the State Consent Judgment. This technology may become the basis for setting improved performance standards for this industry.

b) Pursuant to the State Consent Judgment, Defendants have tested and implemented and will continue to test and implement Next Generation Technologies. Decisions by the Expert Panel pursuant to the State Consent Judgment shall not be subject to Dispute Resolution pursuant to this Decree.

3) CLEAN:

a) On July 2, 1997, CLEAN (Citizens Legal Environmental Action Network, Inc.), a citizens' group, initiated a lawsuit against PSF (W.D. Mo. No. 97-6073-CV-SJ-6). This suit was brought pursuant to the citizen suit provisions of Section 505 of the Clean Water Act (CWA), 33 U.S.C. § 1365, and Section 304 of the Clean Air Act (CAA), 42 U.S.C. § 7604. CLEAN filed its First Amended Complaint on August 27, 1997 alleging violations of the CWA and CAA, and on October 14, 1998 CLEAN added a claim for relief under the citizen suit provision of Section 310 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. § 9659.

b) On June 15, 1998, CLEAN initiated a lawsuit against CGC (S.D. Mo. 98-6099-CV-SJ-8). CLEAN's suit against CGC was also brought pursuant to the citizen suit provisions of the CWA, CAA, and CERCLA. The violations alleged by CLEAN against CGC relate to the following CGC farms and facilities: Hickory Creek, Homan, Ruckman, Scott/Colby, and Sharp. CLEAN's Complaint also alleges violations by CGC at its feedmill, known as Cypress Creek. The pleadings of CLEAN in this case, upon entry by the Court

of this Decree, are deemed amended to consolidate the *CLEAN v. CGC* lawsuit into this lawsuit.

4) a) **United States:**

a) On October 8, 1999, this Court granted the motion of the United States, moving on behalf of the Administrator of the United States Environmental Protection Agency (EPA), to intervene and file a complaint in intervention in the citizen suit brought by CLEAN against PSF under the CWA, 33 U.S.C. § 1311, *et seq*. Subsequently, on June 21, 2000, this Court granted the United States leave to amend its complaint to seek injunctive relief and civil penalties against PSF arising out of alleged unlawful discharges into waters of the United States and the failure to comply with requirements of National Pollutant Discharge Elimination System (NPDES) permits. The violations alleged by CLEAN and the United States against PSF relate to the following PSF farms and facilities: Denver Miller, Green Hills, Hedgewood, Locust Ridge, Overlook Ranch, Peach/Perkins, Somerset, South Meadows, Summers Multiplier, Terre Haute, Valley View, Wade/Webster, Whitetail, Wiles, and Wolf/Badger/Brantley. The United States and CLEAN also allege violations by PSF at its meat processing plant in Milan, Missouri. In its pleadings, the United States alleges, *inter alia*, that PSF has operated and continues to operate its CAFO facilities in violation of the CWA.

b) On May 19, 2000, the United States also issued a Finding of Violation (FOV) (attached as Exhibit 1) alleging violations by PSF and CGC of "release

reporting obligations set forth in Section 103 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and Section 304 of the Emergency Planning and Community Right-to-Know Act (EPCRA) and implementing regulations thereunder codified at 40 C.F.R. Parts 302 and 355." The violations alleged by the United States against PSF and CGC relate to the following PSF and CGC farms and facilities: Wolf/Badger/Brantley, Green Hills, Hedgewood, Locust Ridge, Somerset, Terre Haute, South Meadows, Valley View, Wade/Webster, Whitetail, Ruckman and Homan.

c) On April 26, 2000, the United States issued a Notice of Violation (NOV) (attached as Exhibit 2) to PSF alleging that PSF had not applied for required preconstruction permits or operating permits, in violation of the Missouri State Implementation Plan (SIP) and the CAA. The violations alleged by the United States against PSF relate to the following PSF farms and facilities: Green Hills, Hedgewood, Locust Ridge, Somerset Farm, South Meadows, Valley View, and Whitetail.

d) On September 6, 2000, the United States issued a Clarification of the April 26, 2000 Notice of Violation (attached as Exhibit 3). The Clarification notified PSF that some of the facilities at issue in the NOV are not subject to operating permit requirements. In the clarification, EPA reserved "the right to amend the NOV in the future to allege Title V violations based on new information regarding regulated air pollutant emissions."

Upon entry of the Decree by this Court, the pleadings of the United States (including the United States' First Amended Complaint) are deemed amended to include:

a) 1) CWA claims arising from facts or allegations set forth in the United States' Appendices to its responses to Defendant Premium Standard Farms' First Set of Interrogatories to the United States (Exhibit 4);

2) CWA claims against PSF, not listed in the United States' First Amended Complaint, as set forth in Exhibit 5;

3) EPCRA Section 304 and CERCLA Section 103 claims against PSF and CGC for alleged reporting violations arising out of the release of hazardous, extremely hazardous or other substances at or from all of PSF's farms and facilities identified in paragraph 4.a) above and all of CGC's farms and facilities identified in paragraph 3.b) above;

4) CAA claims against all PSF and CGC farms identified in Appendix A Exhibit 2 for failure to apply for preconstruction or operating permits as alleged in the Notice of Violation issued April 26, 2000, as amended September 6, 2000;

5) claims against CGC as set forth in Exhibit 6.

b) 5. Defendants, by entering into this Decree, do not admit any liability arising out of the transactions or occurrences alleged in the "Claims" (as defined in Paragraph 9(a), below).

6. The United States and CLEAN (Plaintiffs) and Defendants (Plaintiffs and Defendants are

referred to herein as "the Parties") (the Parties) agree, and this Court by entering this Decree finds, that this Decree has been negotiated by the Parties in good faith after arms-length negotiations; settlement of this matter will avoid prolonged and complicated litigation between the Parties; and this Decree is fair, reasonable and in the public interest.

THEREFORE, with the consent of the Parties to this Decree, IT IS DECREED:

II. JURISDICTION AND VENUE

7. This Court has jurisdiction over CLEAN, PSF, CGC, and the United States, on behalf of EPA, as parties in this action and the pleadings, as amended. This Court has jurisdiction over the subject matter of this action pursuant to Sections 309(b) and 505(a) of the CWA, 33 U.S.C. §§ 1319(b) and 1365(a), Sections 113(a) and 304(a) of the CAA, 42 U.S.C. §§ 7413 and 7604(a), Sections 109(c) and 310 of CERCLA, 42 U.S.C. §§ 9609(c) and 9659(c), Section 325(b) of EPCRA, 42 U.S.C. § 11045(b) and 28 U.S.C. §§ 1331, 1345 and 1355 because: (1) the action arises in part under the laws of the United States, (2) the United States and CLEAN are plaintiffs, and (3) the action is brought in part to recover penalties incurred under Acts of Congress. Venue is proper in this Court pursuant to Sections 309(b) and 505(c) of the CWA, 33 U.S.C. §§ 1319(b) and 1365(c), Sections 113(b) and 304(c) of the CAA, 42 U.S.C. §§ 7413(b) and 7604 (c), Sections 109(c) and 310(b) of CERCLA, 42 U.S.C. §§ 9609(c) and 9659(b), Section 325(b) of EPCRA, 42 U.S.C. § 11045(b) and 28 U.S.C. §§ 1391(b)-(c), 1395, as this is a judicial district in which Defendants do business and within which the Plaintiffs' claims arose. For the purposes of this Decree and the underlying claims of the Plaintiffs, Defendants waive all objections and defenses that they may have to the jurisdiction of this

Court or to venue in this District. The Parties shall not challenge the terms of this Decree or this Court's jurisdiction to enter and enforce it.

III. PARTIES BOUND

8. This Decree applies to, and is binding upon, Plaintiffs and Defendants and their successors and assigns. Any change in ownership or corporate status of Defendants, including, but not limited to, any transfer of assets or real or personal property, shall in no way alter Defendants' responsibilities under this Decree. Before Defendants sell or transfer a controlling interest in PSF or CGC, any of the farms listed in Exhibit 2 to Appendix A, or the Milan facility, they shall advise such purchaser or successor-in-interest of the existence of this Decree. Such sale shall not relieve Defendants of their obligations to comply with the terms hereof without the express written consent of the United States. In addition, at least thirty (30) calendar days prior to any such sale or transfer, Defendants shall notify the United States in writing, and EPA may, unless otherwise prohibited by applicable law, notify CLEAN.

IV. DEFINITIONS

9. Unless otherwise expressly provided herein, terms used in this Decree which are defined in the CWA, CAA, CERCLA, EPCRA, or in regulations promulgated thereunder shall have the meaning assigned to them therein. Whenever terms listed below are used in this Decree or in the Appendices attached hereto and incorporated hereunder, the following definitions shall apply:

a) "Claims" shall mean the following claims through the date of lodging of this Decree (except as expressly provided in Exhibit 5): 1) with

respect to the United States, claims by the United States alleged in the pleadings of the United States, as amended pursuant to this Consent Decree, under the CWA, CAA, CERCLA, or EPCRA;

2) with respect to CLEAN, the claims by CLEAN: (a) against PSF arising out of or related to facts set forth in CLEAN's Second Amended Complaint and exhibits thereto, including the facts more fully described or referenced in the deposition testimony of CLEAN's 30(b)(6) or fact witnesses and the exhibits marked at those depositions; and (b) against CGC arising out of or related to facts set forth in CLEAN's Complaint and exhibits thereto, including the facts more fully described or referenced in the deposition testimony of CLEAN's 30(b)(6) or fact witnesses and the exhibits marked at those depositions, and including the facts referenced in the deposition testimony of CLEAN's members taken in connection with *Vernon Hanes, et al. v. Continental Grain Company*, Case No. 962-7621, in the Circuit Court of the City of St. Louis, State of Missouri;

b) "Clean Air Act" (CAA) shall mean the federal Clean Air Act, as amended, 42 U.S.C. § 7401 et seq., including violations of federally approved or federally enforceable Missouri State Implementation Plan (SIP) provisions arising under the Clean Air Act.

c) "Consent Decree" or "Decree" shall mean this Decree and Exhibits and all Appendices attached hereto. In the event of conflict between this Decree and

any Exhibit or Appendix, this Decree shall control;

d) "Day" shall mean a calendar day unless expressly stated to be a working day. "Working day" shall mean a day other than a Saturday, Sunday, or Federal holiday. In computing any period of time under this Decree, where the last day would fall on a Saturday, Sunday, or Federal holiday, the period shall run until the close of business of the next working day;

e) "Paragraph" shall mean a portion of this Decree identified by an arabic numeral;

f) "Section" shall mean a portion of this Decree identified by a Roman numeral;

g) "Unpermitted Discharge" shall mean a discharge of pollutants from a point source into waters of the United States that is not authorized by an NPDES permit.

V. GENERAL PROVISIONS

10. **Objectives of the Parties**. The objectives of the Parties in entering into this Decree are to: 1) protect public health, welfare and the environment; 2) advance the goals and further the progress of the development of Next Generation Technology/ under the State Consent Judgment; 3) enter into a full and final settlement of all the Claims; 4) continue to develop and implement changes in the manner that animal wastes are handled at Defendants' facilities; 5) maintain compliance with the NPDES Permits and the CWA relating to all of the Defendants' facilities; 6) implement measures to prevent future Unpermitted Discharges into waters of the United States, and to the extent any discharges occur, minimize their effect; 7) employ nitrogen reduction technologies designed to reduce total hydrogen sulfide and ammonia emissions from Defendants' wastewater treatment systems

and land application areas; 8) specify certain best management practices (BMPs) to be followed at Defendants' facilities, including further reduction in the amount of land on which effluent is applied; 9) implement monitoring protocols at Defendants' facilities designated in Appendix F to evaluate the types and quantities of air emissions at Defendants' facilities; and 10) investigate certain other changes to reduce certain types of air emissions from the barns.

11. **Compliance with applicable law.** Notwithstanding any review or approval of Defendants' actions or submissions by the United States pursuant to this Decree, all activities undertaken by Defendants pursuant to this Decree shall be performed in accordance with the requirements of all applicable federal and State laws, regulations and permits.

VI. TESTING ALTERNATIVE TECHNOLOGIES AND ACHIEVEMENT OF PERFORMANCE STANDARDS

12. **Appendices.** Defendants shall comply with the standards and requirements contained in the following Appendices:

Appendix A - Technology Alternatives

Appendix B - Lagoon Integrity Testing

Appendix C - Testing Criteria for Technology Alternatives

Appendix D - Performance Standards

Appendix E - Best Management Practices

Appendix F - Air Emissions Monitoring

Appendix G - Supplemental Environmental Projects

Appendix H - Quarterly and Special Reports

13. **Testing and Implementing Technologies.** Defendants will construct and operate technological alternatives approved pursuant to the State Consent Judgment process,

consistent with Appendix A, pursuant to the schedule and at the facilities set forth in Appendix A. Defendants have already requested approval under the State Consent Judgment to proceed with the evaluation and/or implementation of specific technologies described in Appendix A. Defendants will continue to request any other necessary future approvals under the State Consent Judgment process and applicable laws pursuant to Appendix A. The United States agrees to support Defendants' requests which are consistent with Appendix A. Defendants' duties under this Paragraph are subject to the provisions of Paragraph 53.

14. **Lagoon Integrity Testing.** Tests of lagoon integrity at the lagoons specified in Appendix B shall be performed, in accordance with the specifications contained in that Appendix. For any lagoon required to be tested pursuant to Appendix B, satisfactory test results, as specified in Appendix B, shall be a prerequisite for the implementation of any alternative technology utilizing that lagoon.

15. **Report on Alternative Technologies.** Defendants shall submit a report in accordance with SECTION VIII. REPORTS; SATISFACTORY COMPLETION OF WORK and Appendix H on the results of their tests of alternative technologies pursuant to Paragraph 13.

16. **Achievement of Performance Standard.**

    a) **Performance Standard.** Defendants shall reduce the nitrogen concentration of wastewater sent to land application by a minimum of fifty percent from the baseline concentration established in Appendix D for each irrigation storage basin. The identity of the farms subject to the nitrogen reduction, the manner in

which the reduction is achieved and the schedule for achieving the reduction are set forth in Appendices A, C, and D. Whenever, under this Decree and the State Consent Judgment, Defendants are required to meet performance standards for the same parameter, Defendants shall comply with the more stringent of the two standards; provided, however, that this Court will not enforce the terms of the State Consent Judgment. Defendants shall demonstrate through emissions monitoring, estimates, or other reliable means that the methods chosen to achieve this standard of performance do not cause or contribute to any violation of any applicable emission standard under the CAA. Defendants shall design, construct, and implement the chosen nitrogen reduction methods so as to also substantially eliminate the ammonia and hydrogen sulfide emissions in accordance with the schedules and requirements in Appendix A.

b) **Proper Operation and Maintenance.** Defendants shall properly operate and maintain all facilities and systems of treatment and control used to achieve the performance standard set forth above. Proper operation shall preclude the intentional bypass of any portion of the treatment system for any reason, except 1) if such bypassed flow is returned to the treatment system, 2) to prevent personal injury or property damage, or 3) as otherwise necessary, using sound engineering judgment, such as for essential maintenance. The parties recognize that, although they expect the treatment technologies described in Appendix A to achieve the performance standard in Paragraph 16, these technologies have not been applied to the type of waste treated pursuant to this Decree. In the

event that a properly designed and constructed treatment system cannot, despite proper operation, achieve the performance standards in Paragraph 16, Defendants may seek relief pursuant to Paragraph 73.

17. **Best Management Practices.** Defendants shall implement the Best Management Practices (BMPs) as set forth in Appendix E.

VII. ACCESS TO PROPERTY AND INFORMATION

18. Defendants agree, to the extent they control access, to provide the United States and its authorized representatives and contractors immediate access at all reasonable times to any property to which access is required for determining Defendants' compliance with this Decree.

19. Defendants shall provide the United States, upon request, all unprivileged documents and information within their possession or control or that of their contractors or agents relating to Defendants' activities subject to this Decree, including, but not limited to, reports, correspondence or other documents or information related to the work performed pursuant to the Appendices. Defendants shall also make available to the United States for purposes of investigation or information gathering, their employees, agents or representatives with knowledge of relevant facts concerning the performance of the work required in the Appendices. The United States shall provide CLEAN copies of all such requests and, subject to 40 C.F.R. Part 2, shall provide CLEAN access to the documents and information provided pursuant to this Paragraph.

20. The United States retains, and nothing herein shall limit, all of its access and information-

gathering authorities and rights, including related enforcement authorities under applicable laws or regulations.

VIII. REPORTS; SATISFACTORY COMPLETION OF WORK

21. **Reports.** Defendants shall submit reports to all Parties in accordance with the reporting requirements, schedules and standards contained in the Appendices. To the extent that such reports contain confidential business information pursuant to 40 C.F.R. Part 2, a separate report without confidential business information will be provided separately to CLEAN. Reports from Defendants which are designated in the Appendices to be in writing shall be signed by Defendants' Project Coordinator and any other person designated in the Appendices. Such reports shall also contain the following certification statement, signed by a responsible corporate official of Defendants as defined in 40 C.F.R. § 122.22:

> To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Notwithstanding review or approval by the United States of any plans, reports, policies or procedures formulated pursuant to this Decree, Defendants shall remain solely responsible for any noncompliance with the terms of this Decree, all applicable permits, and applicable federal and state laws and regulations.

22. **Government's Evaluation of Reports.** Defendants shall submit reports by the deadlines contained in this Decree or its Appendices. The United States shall review and approve or disapprove those reports based on the standards contained in the Appendices

and so notify the Parties, by the deadlines set forth in the Appendices.

23. **Cure.** If the United States disapproves a report, it shall notify Defendants in writing and state the reasons for disapproval. Defendants shall modify (cure) their report to address the United States' concerns and resubmit the report within thirty (30) days of notice of disapproval. The United States shall approve the modified report if it satisfies the standards contained in the Appendices. If the report is disapproved the United States shall set forth in writing the reasons for disapproval.

24. **Satisfactory Completion.** Approval by the United States of a report either initially or at time of cure shall constitute satisfactory completion of the requirement which is the subject of the report. The United States' disapproval of a report, after opportunities for cure, shall (subject to Section XV. DISPUTE RESOLUTION) constitute a failure to comply with the requirement which is the subject of the report.

25. **Deadlines, Extensions, Modifications.** The Parties recognize that the work undertaken pursuant to the State Consent Judgment and this Decree is complicated and, in some instances, involves adapting treatment technology not previously applied to waste streams that are the same as Defendants' waste. The United States (after consultation with CLEAN), and the Defendants may by agreement extend any deadline in this Decree (the extension will include any related deadlines which are dependent on the extended deadline); defer deadlines until a previous step has been satisfactorily concluded; or modify an Appendix. No additional penalties shall accrue solely by virtue of such extension, deferral or modification; however, penalties for failure to comply with other deadlines and milestones not expressly extended shall continue to accrue.

26. Within twenty (20) days of lodging this Decree, the United States and Defendants shall notify each other, in writing, of the names, addresses and telephone numbers of their respective designated Project Coordinators. If a Project Coordinator initially designated is changed, notice of the successor shall be given at least five (5) working days before the change occurs, unless impracticable, but in no event later than the actual day the change is made. In the event any work set out in an Appendix has been completed before the entry of this Decree, Defendants must provide the requisite information concerning their Project Coordinator prior to obtaining written confirmation of the satisfactory completion of work in accordance with this Section.

IX. CIVIL PENALTIES

27. Subject to Section XII. PAYMENT OF PENALTIES AND RELATED MATTERS, Defendants agree to a civil penalty in the amount of one million dollars ($1,000,000) in resolution of all claims to which the release and covenant not to sue apply pursuant to Paragraph 64, with a $650,000 credit for the penalty paid to the State of Missouri under the State Consent Judgment. This amount ($350,000) shall be paid to the United States within thirty (30) days of the entry of this Decree.

X. SUPPLEMENTAL ENVIRONMENTAL PROJECT

28. Defendants shall complete the Supplemental Environmental Project (SEP) set forth in Appendix G, which the Parties agree is intended to secure significant environmental or public health benefits.

29. Defendants shall complete the SEP in accordance with the provisions of Appendix G, as

well as in accordance with Appendices F and H.

30. The total expenditure for the SEP(s) shall be not less than $300,000 in accordance with the specifications set forth in Appendix G. Defendants shall include documentation of the expenditures made in connection with the SEP as part of the SEP Completion Report required pursuant to Appendix H.

31. Defendants hereby certify that, as of the date of this Decree, Defendants are not required to perform or develop the SEP by any federal, state or local law or regulation; nor are Defendants required to perform or develop the SEP by any other agreement (other than this Decree), or grant, or as injunctive relief in this or any other case.

32. Defendants shall use or operate the systems installed as the SEP for not less than the time period specified in Appendix G.

33. To the extent that Defendants' actual expenditures for the SEP do not equal or exceed the cost of the SEP as set forth above, Defendants shall be liable for stipulated penalties as follows:

a) If the SEP is not completed in accordance with Appendix G, but the United States determines that the Defendants: 1) made good faith and timely efforts to complete the project; and 2) Defendants certify, with supporting documentation, that at least ninety (90) percent of the amount of money which was required to be spent was expended on the SEP, Defendants shall not be liable for any stipulated penalty;

b) If the SEP is completed in accordance with Appendix G, but the Defendants spent less than ninety (90) percent of the amount of money required

to be spent for the project, Defendants shall pay a stipulated penalty to the United States in the amount of $75,000;

c) If the SEP is completed in accordance with Appendix G, and the Defendants spent at least ninety (90) percent of the amount of money required to be spent for the project, Defendants shall not be liable for any stipulated penalty for failure to expend the entire required amount.

34. Accrual and assessment of any stipulated penalties under this Section shall be subject to Paragraphs 40, 44, 46, 47, 48 and 50 of Sections XI. STIPULATED PENALTIES and XII. PAYMENT OF PENALTIES AND RELATED MATTERS.

35. Any public statement, oral or written, in print, film or other media, made by Defendants making reference to the SEP shall include the following language: "This project was undertaken in connection with the settlement of an enforcement action taken by the United States."

XI. STIPULATED PENALTIES

36. Defendants shall be liable for stipulated penalties for failure to comply with the requirements of this Consent Decree and its attachments as provided in this Section. For purposes of this Section, compliance shall mean timely and complete performance in accordance with this Decree and its Appendices. Stipulated penalties are per violation, per day, unless otherwise specified.

37. **Submittals**. Defendants shall be subject to the following stipulated penalties if they fail to timely submit reports or fail to timely submit responses to the United States' comments as required by Section VIII and Appendix H of this Decree. This Paragraph does not apply

to the substantive requirements of the submittals.

Period of Violation	**Penalty**
1-30 days	$ 250
31-60 days	$ 500
over 60 days	$1000

If failure to submit a report is attributable to failure to timely complete the underlying work, Defendants will be subject only to the penalties set forth in Paragraph 38 provided they notify the United States in writing by the reporting date.

38. **Compliance with Appendices.**

a) If Defendants fail to timely perform the work as set forth in Appendices A (Technology Alternatives), B (Lagoon Testing), C (Testing Criteria for Technology Alternatives), F (Air Emissions Monitoring) or G (Supplemental Environmental Project) and any amendments to these Appendices, Defendants shall be subject to the following stipulated penalties:

Period of Violation	**Penalty**
1-30 days	$200
31-60 days	$1000
over 60 days	$3000

b) **Failure to Achieve Performance Standard.** If Defendants fail to comply with the requirements set forth in Appendix D (Performance Standards) for the effluent from an irrigation storage basin, Defendants shall be subject to the following stipulated penalties for each basin for which the twelve-month, flow-weighted average nitrogen content of the effluent is out of compliance:

Period of Violation	**Penalty**
First month	$500/month
Second consecutive month	$500/month
Third consecutive month	$2000/month
Fourth consecutive month	$3000/month

Fifth consecutive month	$4000/month
Sixth consecutive month and each consecutive month thereafter	$5000/month

c) If Defendants fail to comply with the requirements set forth in the following Sections of Appendix E: (a) Section I; (b) Section II, Paragraphs A.(3), B, and C; (c) Section III (Lagoon Maintenance), Defendants shall be subject to the following stipulated penalties:

Period of Violation	**Penalty**
1-30 days	$ 250
31-60 days	$ 500
over 60 days	$1000

39. **Operating Standards**.

a) Discharges into waters of the United States.

b) 1) Prior to the implementation of technologies as required by the Appendix A Schedule, Defendants shall be subject to a stipulated penalty of $1500 in the event of a discharge that reaches waters of the United States.

2) Following the implementation of technologies as required by Appendix A at a farm, Defendants shall be subject to a stipulated penalty of $3000 in the event of a discharge that reaches waters of the United States.

3) Defendants shall be subject to a stipulated penalty of $750 in the event a discharge of rinse water from the Milan truck wash reaches waters of

the United States.

c) **Land Application.** For each of Defendants' fields and each field for which Defendants have a spreading agreement, if Defendants or their contract applicators acting on Defendants' behalf exceed the permitted agronomic limit and the United States issues a notice or finding of violation for such occurrence or otherwise informs Defendants in writing of the violation, Defendants shall be subject to a stipulated penalty of $500 for each violation in such notice or finding.

d) For each occasion that Defendants or their contract applicators acting on Defendants' behalf operate land application equipment in such a manner that wastes cross adjoining property lines and where the United States issues a notice or finding of violation for such occurrence or otherwise informs Defendants in writing of the violation, Defendants shall be subject to a stipulated penalty of $1500 per occurrence.

40. Except as provided in Paragraph 42, below, all stipulated penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs, and shall continue to

accrue through the final day of the correction of the noncompliance or completion of the activity. Separate penalties for separate violations of this Decree may accrue simultaneously.

41. Defendants shall notify the United States in writing of any failure of Defendants to perform by a deadline, for which notice is not otherwise provided, and for which stipulated

penalties may be due, within ten (10) working days of their knowledge of such failure.

42. If the United States determines that Defendants have failed to comply with a requirement of this Decree due to submission of an inadequate report, the United States will give Defendants written notification describing the noncompliance. With respect to such a violation of this Decree, stipulated penalties shall not accrue until Defendants have received such notice and failed to cure the defect within thirty (30) days as required by Section VIII. REPORTS; SATISFACTORY COMPLETION OF WORK.

43. The United States may, but shall not be required to, provide notice to Defendants for untimely submissions, and penalties shall accrue for such violations from the date the submission was due regardless of whether Defendants or the United States has notified the other of a violation.

44. The United States may elect to waive all or a portion of any stipulated penalty that may accrue.

45. The United States may seek either civil or stipulated penalties; however it will not seek both civil penalties and stipulated penalties for the same violation of the Decree.

XII. PAYMENT OF PENALTIES AND RELATED MATTERS

46. All stipulated penalties owed to the United States under this Decree shall be due and payable within thirty (30) days of Defendants' receipt of a demand for payment of a penalty, unless Defendants invoke the procedures under Section XV. DISPUTE RESOLUTION. In determining the amount of any stipulated penalties due from Defendants, in its demand the United States shall credit Defendants with any penalties paid by Defendants to the State of Missouri for the same violation. In the event Dispute

Resolution is invoked, stipulated penalties shall not accrue for the time period starting forty-five (45) days after the deadline for the United States' response to the petition (as it may be extended by agreement or this Court) to the Court and running through the date of decision by the Court.

47. **Manner of payment**. Payments required to be made under this Decree shall be made by Electronic Funds Transfer (EFT) or wire transfer to the United States Department of Justice lockbox bank, maintained by the United States Attorney in the Western District of Missouri, referencing the Civil Action Number 97-6073-CV-SJ-6; DOJ Case Numbers 90-5-1-1-06806 and 90-5-1-1-06806/1. Payment to the United States shall be made in accordance with instructions provided to Defendants upon execution of the Decree. Defendants shall specify whether payment is towards satisfaction of civil penalties or stipulated penalties. Any EFTs received at the lockbox bank after 11:00 A.M. (Eastern Time) shall be credited on the next business day.

48. **Interest and other charges.** If Defendants fail to timely make any payment required under this Decree, then, commencing the day after payment is due, Defendants shall be liable for interest on the unpaid balance owed to the United States at the federal judgment interest rate computed in accordance with 28 U.S.C. § 1961 as of the date payment is due, and, if incurred, for the costs of enforcement and collection pursuant to the Federal Debt Collection Procedure Act, 28 U.S.C. § 3001 *et seq*.

49. The payment of any stipulated penalty shall not affect Defendants' obligation to complete performance of the work required in the Appendices or satisfy their other obligations under this Decree.

50. No penalties paid under this Section shall be tax deductible for federal or state tax purposes.

XIII. DEFAULT

51. If Defendants fail to timely pay civil or stipulated penalties under this Decree, this Decree shall be considered an enforceable judgment against Defendants for purposes of post-judgment collection under Rule 39 of the Federal Rules of Civil Procedure and other applicable statutory authority without further order of this Court.

XIV. *FORCE MAJEURE*

52. *Force majeure*, for purposes of this Decree, is defined as any event arising from causes beyond the reasonable control of Defendants (or of any entity controlled by them, including, but not limited to, contractors and subcontractors) that delays or prevents the performance of any obligation under this Decree despite Defendants' best efforts to fulfill the obligation. The requirement that Defendants exercise best efforts to fulfill the obligation includes best efforts to address the effects of any potential *force majeure* event 1) as it is occurring and 2) following the *force majeure* event, such that the delay is minimized to the extent possible. *Force majeure* may include the inability to obtain a necessary federal, state, or local permit, authorization, certification, or approval despite Defendants' timely, good faith efforts to do so, but does not include financial inability to comply. Defendants have a duty to reasonably anticipate any event that may cause a *force majeure* and to take reasonable steps to prevent delays as a result thereof.

53. For the purposes of this Decree, *force majeure* shall include the failure to obtain approval pursuant to the State Consent Judgment after a complete and good faith

submission by Defendants requesting approval to amend Defendants' Work Plan to test, construct, or operate a technological alternative used to fulfill the requirements of Paragraph 13. In the event of the failure to obtain such approval, Defendants shall have ninety (90) days to submit a new request for approval under the State Consent Judgment to the United States for review. Defendants shall revise the new request until it is approved by the United States as fulfilling the requirements of Paragraph 13 of this Decree. Within thirty (30) days thereafter, Defendants shall submit the new request for approval to amend Defendants' Work Plan under the State Consent Judgment. In no event shall the *force majeure* described in this Paragraph excuse Defendants from achieving the performance standards set forth in Paragraph 16.

54. The United States shall, at the written request of Defendants, extend any applicable date for compliance for a period no longer than that warranted by the *force majeure* event and waive stipulated penalties for the exceedance or other violation affected by the *force majeure* event.

55. If the United States denies Defendants the relief sought pursuant to the preceding Paragraph, the United States' position shall control unless Defendants invoke the Dispute Resolution procedures of this Consent Decree within fifteen (15) days of the receipt of such denial. Defendants shall have the burden of proving that any event is caused solely by circumstances beyond their reasonable control and that they exercised best efforts to fulfill the obligation.

56. Defendants shall provide written notice to the United States of any request for application of this section within twenty (20) working days of Defendants' knowledge of

the alleged *force majeure* event. To the extent practicable, such request shall describe in detail: the anticipated length of the delay, violation or exceedance; the precise cause or causes of the delay, violation, or exceedance; and the measures taken by Defendants to prevent or minimize any such delay, violation, or exceedance. Failure by Defendants to comply with the notice requirements of this Paragraph may, at the discretion of the United States, render any claim of *force majeure* void and of no effect as to the particular incident involved.

XV. DISPUTE RESOLUTION

57. **Disputes Generally.** Any dispute arising under or with respect to this Consent Decree shall in the first instance be the subject of informal negotiations between or among the Parties to the dispute for a period of thirty (30) days from the time notice of the existence of the dispute is given. The period for negotiations may be extended by written agreement of the Parties. Except as provided below, any dispute that cannot be so resolved may be referred to the Court.

58. If a dispute between (a) the United States and (b) Defendants or CLEAN cannot be resolved by informal negotiations under Paragraph 57, then the position advanced by the United States shall be considered binding unless, within thirty (30) days after the end of the informal negotiations period, Defendants or CLEAN file a petition with this Court setting forth the matter in dispute, the efforts made by the Parties to resolve it, and its proposed resolution. The United States shall have thirty (30) days to file a response to the Defendants' or CLEAN's petition with an alternative proposal for resolution of the dispute. In proceedings on any dispute under this Paragraph: (a) the Defendants or

CLEAN shall bear the burden of proof; and (b) the party raising the dispute shall provide notice of the dispute to the other parties and their counsel. Notice to the Department of Justice under this Paragraph shall include the following DOJ numbers: 90-5-1-1-06806 and 90-5-1-1-06806/1.

59. In resolving disputes, the Court shall consider the requirements and objectives of this Decree and applicable law.

60. The filing of a petition asking the Court to resolve a dispute shall not of itself extend or postpone any obligation of Defendants under this Decree. To the extent the Defendants show that a delay or other noncompliance was due to a *force majeure* event or Defendants otherwise prevail on the disputed issue, stipulated penalties shall be reduced or excused, as appropriate.

XVI. NOT A PERMIT/COMPLIANCE WITH OTHER STATUTES/REGULATIONS

61. This Decree is not and shall not be construed as a permit, nor a modification of any existing permit, issued pursuant to applicable federal and State laws and regulations. Any new permit, or modification of existing permits, shall be complied with in accordance with applicable federal and State laws and regulations.

62. Except as expressly provided in Paragraph 64, nothing herein shall be construed as relieving Defendants from seeking any necessary permit pursuant to applicable federal and State laws and regulations and complying with any requirement necessary to obtain an applicable permit.

63. Except as expressly provided in Paragraph 64, nothing herein shall be construed as

relieving the Defendants of their respective duties to comply with applicable federal and State laws and regulations and all applicable permits issued thereunder. Defendants shall continue to comply with the release reporting obligations set forth in Section 103 of CERCLA and Section 304 of EPCRA and implementing regulations thereunder as codified at 40 C.F.R. Parts 302 and 355. This Decree does not excuse Defendants of their respective duties to comply with the State Consent Judgment.

XVII. EFFECT OF SETTLEMENT AND RELEASE

64. Subject to receipt of payment of the civil penalty set forth in Paragraph 27, and consistent with Paragraphs 65 and 66, Plaintiffs release and covenant not to sue or take any further civil or administrative action against Defendants for:

a) Claims, as defined in Paragraph 9(a) of this Decree; and

b) the following potential claims arising under the CAA at all PSF and CGC farm sites:

1) claims based on parameters monitored pursuant to Appendix F or G of this Decree, if the violation is timely cured, as defined below; and

2) claims based on parameters that are not monitored pursuant to Appendix F or G if:

(a) the violation is timely cured, as defined below; and

(b) in the case of any violation based upon facts known to Defendants but unknown to EPA, Defendants provide timely notice of the violation to EPA and the State. This notice shall not be a condition of release if, before the Defendants discovered the violation, the United

States notified Defendants in writing (or the notice is confirmed in writing) of the possibility of such a violation. For purposes of this Subparagraph, "timely notice" shall mean notice within 21 days of Defendants' discovery of the violation or entry of this Decree, whichever is later, unless otherwise agreed by Defendants and the United States.

c) "Cure" as used in this Paragraph is defined as follows:

1) cure of the failure to have an applicable permit shall consist of filing a substantially complete application for such permit within 90 days after the applicable trigger date, as defined below. This release and covenant shall extend through the period while such an application is pending, but does not apply to any claims that a Defendant has violated such permit after it has been issued;

2) cure of the failure to submit a required report shall consist of submitting the report (to the extent feasible with available information) within 90 days after the applicable trigger date, as defined below;

3) cure of any violation of any other requirement or limitation shall consist of coming into compliance with that requirement or limitation within 90 days after the trigger date, as defined below. If more than 90 days is required to achieve compliance, cure shall consist of submitting within the 90-day period a plan that is ultimately approved by EPA and subsequently complying with the approved plan to achieve compliance in accordance with a specified schedule.

The release and covenant shall continue while the plan and proposed compliance schedule are under review;

d) For the purposes of this Paragraph, the "applicable trigger date" for parameters monitored pursuant to Appendix F or G shall be the date of approval of the Final Report or the date that the United States notifies Defendants that they have failed to adequately cure a defective Final Report, as defined in Section VIII of this Decree. For parameters that are not monitored pursuant to Appendix F or G, the "applicable trigger date" shall be the date when Defendants provide "timely notice" (as defined in this Paragraph) to the United States, or the United States provides notice to the Defendants of the potential violation, whichever occurs first.

e) This release and covenant does not extend to a CAA violation that is not cured pursuant to this section during the pendency of the Decree or a violation that is repeated after Defendants have cured, as defined above.

XVIII. RESERVATION OF RIGHTS AND NON-WAIVER PROVISIONS

65. **General Reservations of Rights.** This Decree is without prejudice to all rights of the Plaintiffs against Defendants with respect to any claims not expressly released herein, including but not limited to, the following:

a) Claims for damages for injury to, destruction of, loss of use of, or loss of natural resources, or for costs or damages that have been or may be incurred by any federal agencies acting as trustees for natural resources;

b) Claims for violations of law that occurred after lodging of this Decree that are not otherwise released by this Decree;

c) Claims arising under laws and authorities other than Sections 301 and 311 of the CWA, U.S.C. §§ 1311 and 1321, CAA Subchapter I, Part C, Section 103 of CERCLA, 42 U.S.C. § 9603, and Section 304 of EPCRA, 42 U.S.C. § 11004 ; and

d) Criminal liability.

66. Except as provided herein, and in addition to any penalties, the United States reserves the right and retains all authority to pursue any other remedies or actions otherwise authorized by law, including the authority to seek information from Defendants; respond to conditions that may present an imminent and substantial endangerment to the environment, public health or welfare; and seek an order, either in this or another action, for contempt or specific performance of the terms of this Decree.

XIX. COSTS OF SUIT

67. The United States and the Defendants shall bear their own costs and attorneys' fees as to one another with respect to matters related to this Decree, except as provided below.

68. Should the Court subsequently determine that the Defendants have violated the terms and conditions of this Decree, the United States may seek any costs of litigation incurred by it in an action against the Defendants with respect to such violations of the Decree.

69. By entering into this Decree, CLEAN and Defendants do not admit any liability for attorney fees and reserve their rights to submit applications to the Court for recovery of reasonable attorney fees consistent with 33 U.S.C. 1365(d); 42 U.S.C. 7604(d); and 42 U.S.C. 9659(f).

XX. RETENTION OF RECORDS

70. Until the termination date of this Decree, Defendants shall preserve and retain all records, documents or other information in their possession or control that relate to the performance of the work and satisfaction of requirements in this Decree, regardless of any corporate document retention policy to the contrary. Defendants shall also instruct their contractors and agents to preserve all such documents, records and information for the same time period. In the event the same text is contained in both electronic and hardcopy, only one copy need be retained.

XXI. NOTICES AND SUBMISSIONS

71. Whenever, under the terms of this Decree unless otherwise specified, written notice is required to be given or a report or other document is required to be sent by one party to another, it shall be directed to the individuals at the addresses specified below, unless those individuals or their successors give written notice of a change. All notices and submissions shall be considered effective upon receipt, unless otherwise provided.

As to the United States:

Donald C. Toensing
EPA Project Coordinator
EPA Region VII
901 N. Fifth Street
Kansas City, Kansas 66101

and

Becky Ingrum Dolph
Deputy Regional Counsel, Region VII
901 N. Fifth Street
Kansas City, Kansas 66101

As to the Defendants:

General Counsel
Premium Standard Farms

423 W. 8th Street
Kansas City, Missouri 64105

and

Vice President of Environmental Affairs
Premium Standard Farms
423 W. 8th Street
Kansas City, Missouri 64105

As to CLEAN:

Terry Spence
R. R. 2, Box 147
Unionville, Missouri 63565

and

Rolf Christen
60731 Hwy. M
Green City, Missouri 63545

XXII. EFFECT OF DECREE, RETENTION OF JURISDICTION, TERMINATION

72. This Decree shall be considered an enforceable judgment for purposes of post-judgment collection in accordance with Rule 69 of the Federal Rules of Civil Procedure and other applicable federal statutory authority.

73. This Court retains jurisdiction over both the subject matter of this Decree and Defendants for the duration of the performance of the terms and provisions of this Decree for the purpose of enabling the Parties to apply to this Court at any time for such further order, direction, and relief as may be necessary or appropriate for the construction or modification of this Decree, or to effectuate or enforce compliance with its terms, or to resolve disputes in accordance with Section XV. DISPUTE

RESOLUTION. Nothing in this Decree, however, is intended to confer jurisdiction on this Court to enforce the State Consent Judgment.

74. This Decree shall terminate upon application of any Party after Defendants have achieved, for no less than 12 months, the performance standard for the reduction of nitrogen specified in Paragraph 16 and Appendix D (based upon the simple average of the 12-month flow-weighted average for each farm, with no farm achieving less than a forty-five (45) percent reduction), and Defendants have made all payments and have substantially satisfied all of the other requirements of this Decree.

75. Material modifications to the Decree may be made only after consultation with all Parties and upon written approval of the United States, Defendants and this Court. Modifications that do not materially alter Defendants' obligations under the Decree may be made without consent of this Court after consultation with all Parties and by written agreement between the Defendants and the United States.

76. This Decree shall be lodged with this Court for at least thirty (30) days for public notice and comment in accordance with 28 C.F.R. § 50.7. The United States reserves the right to withdraw or withhold its consent to the Decree if the comments disclose facts or considerations which indicate that the Decree is inappropriate, improper, or inadequate. Defendants consent to the entry of this Decree without further notice.

77. If this Court declines to approve this Decree in the form presented, upon written notice at the sole discretion of any party, this agreement is voidable as to that party but the terms of the agreement may not be used as evidence in any litigation between the Parties.

78. The undersigned representative of Defendants, the United States and CLEAN each

certifies that he or she is fully authorized to enter into the terms and conditions of this Decree and to execute and legally bind the party whom he or she represents.

79. Defendants shall identify, on the attached signature page, the name, address and telephone number of an agent who is authorized to accept service of process by mail on its behalf with respect to all matters arising under or relating to this Decree. Defendants hereby agree to accept service in that manner and to waive the formal service requirements set forth in Rule 4 of the Federal Rules of Civil Procedure and any applicable local rules of this Court,

including, but not limited to, service of a summons. This Decree may be signed in duplicate.

SO ORDERED THIS ____ DAY OF _____, 2001.

_____
HOWARD F. SACHS
UNITED STATES DISTRICT JUDGE

FOR THE UNITED STATES OF AMERICA

_____
JOHN C. CRUDEN
Acting Assistant Attorney General

_____
STEVEN R. BAER, Senior Counsel
PAUL R. STOKSTAD, Trial Attorney
CYNTHIA M. FERGUSON, Trial Attorney
Environmental Enforcement Section
Environment and Natural Resources Division
United States Department of Justice
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FOR THE UNITED STATES
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AGENCY:

_____

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_____

_____

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FOR PREMIUM STANDARD FARMS, INC. and CONTINENTAL GRAIN COMPANY, INC.:

_____

_____

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_____

_____

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_____

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Washington, D.C. 20004-2595

APPENDIX A
Technology Alternatives

Defendants will evaluate the technical and economic feasibility of different types of wastewater treatment technologies to enable them to achieve compliance with the nitrogen reduction requirements set forth in Paragraph 16 and Appendix D of the Decree. Treatment technologies already being evaluated include: 1) a central nitrification and denitrification wastewater treatment system ("Nitrification/Denitrification") and 2) value-added technologies designed to convert the waste into product form (e.g., fuel or fertilizer) ("Value-Added"). Other technologies not described herein may be evaluated by Defendants pursuant to the State Consent Judgment.

In accordance with this Appendix, the Schedule attached hereto, and the reporting requirements of Appendix H, Defendants shall identify a technology or technologies ("Selected Technology/Selected Technologies") for implementation at each of Defendants' Class 1A farms. For sites other than Whitetail, in determining which technologies are appropriate for implementation, all things being equal, preference shall be given to technologies other than those described below as the Whitetail Technologies. The United States shall approve the designation of a technology as a Selected Technology for implementation if the technology can meet the performance standards and criteria set forth in Paragraph 16 of the Consent Decree, this Appendix, and Appendix D as measured by the testing and monitoring requirements of Appendix C.

Except for the three sites identified below being used for evaluation of the Initial Whitetail Technology, any treatment technology that is identified as a Selected Technology by Defendants must be designed to substantially eliminate ammonia and hydrogen sulfide emissions from

wastewater treatment and land application by installation of a system which by design removes these compounds to product form or converts them to an aqueous form. Any anaerobic lagoons that are used with an approved treatment system must be covered with permeable covers designed to reduce odor, ammonia and hydrogen sulfide emissions. Compliance with ammonia and hydrogen sulfide reductions will be determined by Defendants' good faith efforts in designing a system engineered to substantially eliminate ammonia and hydrogen sulfide emissions and constructing a system in accordance with that design. As to the three sites at the Whitetail Farm being used for the evaluation of the Initial Whitetail Technology, Defendants have reviewed available information regarding the anticipated performance of that technology at Whitetail and have presented estimates of the expected emissions, which have been independently reviewed by EPA, that demonstrate both peak and total annual emissions of ammonia and hydrogen sulfide at those sites will likely be less than emissions from those sites prior to installation of the Initial Whitetail Technology.

Description of Technologies to be Evaluated

Whitetail Technologies

Two technologies are currently being implemented at Whitetail. PSF is already constructing a wastewater treatment system at the Whitetail Farm. The system is referred to as the "Initial Whitetail Technology" (see 1999 and 2000 PSF Environmental Work Plans). Construction of this system is nearly complete on three of nine sites. Defendants will complete construction, and start-up and operate these three sites. PSF has redesigned the remaining six sites and will begin to construct a central Nitrification/Denitrification wastewater treatment system during 2001 at the Whitetail Farm. Defendants will proceed with the construction and operation of the Nitrification/Denitrification system on the remaining farms consistent with the Schedule attached hereto.

The central wastewater treatment system will be designed to reduce odor and emissions from the farm and land application areas and the nitrogen content of the waste streams that are land applied to meet the requirements of this Consent Decree. The process of ammonia reduction is through nitrification and denitrification. Hydrogen sulfide reduction is through sulfide oxidation. The central waste treatment system consists of four new treatment basins that are centrally located on a farm.

The process description is as follows:

- ~ Permeable covers on each existing lagoon for odor control and gas emissions reduction.
- ~ Transfer of the daily inflow (on average) from each existing lagoon to a central nitrification and denitrification system.
- ~ Covered anoxic basin (with synthetic liner) for nitrate and biochemical oxygen demand reduction.

- ~ Covered aeration basin (with synthetic liner) designed for ammonia conversion to nitrate through nitrification (with recycle to anoxic basin).
- ~ Open biosolids storage basin (with clay liner) for settling and further denitrification.
- ~ Open irrigation storage basin (with clay liner) for storage of treated effluent prior to land application.

Although the winter time temperatures of the lagoon effluent would normally inhibit nitrification, the central system will be specifically designed to overcome this obstacle and operate year round.

Existing Lagoons With Permeable Covers
The manure from each site will continue to be pretreated in the existing anaerobic lagoons. Each lagoon will be covered with a non-woven polypropylene geotextile fabric. Permeable covers are designed to reduce odor and emissions in two ways. First, they are designed to physically limit the emission of odorous chemicals from the lagoon surface (including elimination of wind and wave action). Second, they are designed to create an aerobic, biologically active zone on top of the cover where odorous chemicals emitted from the lagoon will be oxidized by microorganisms.

Flow Transfer
A new pump at each lagoon will be operated to transfer the average daily influent volume to a central wastewater treatment system. Based upon a year round operation and the goal of nitrifying and denitrifying the maximum amount of nitrogen discharging to the central treatment system, the rate of flow treated during each month will vary depending upon the temperature of the wastewater. During the summer months the flow rate will be greater than the average flow rate. During the colder winter months the flow rate will be less. The effect of varying the flow rate with changing temperature is to change the hydraulic detention time in the aeration basin to match the growth rate of the nitrifying bacteria. The aeration basin will be operated at a detention time of approximately twelve days during summer months and approximately forty-two days during winter months.

Anoxic Basin
The first step in the waste treatment system will be a permeably-covered and synthetically-lined Anoxic Basin, which precedes the Aeration Basin and receives the flow from the existing anaerobic lagoons that each have a permeable cover. Flow from the Aeration Basin will be recycled to the Anoxic Basin to return nitrates for denitrification. The Anoxic Basin will have a two-day detention time at peak design flow and an approximate depth of sixteen feet. There

will be floating directional mixers to maintain solids in suspension. The Anoxic Basin allows the bacteria to utilize the oxygen from the nitrates in the recycle flow to oxidize the incoming BOD5. The nitrogen remaining after the bacteria strip the oxygen discharges to the atmosphere as nitrogen gas.

Long Detention Time Aeration Basin
The Aeration Basin, which will be permeably-covered and synthetically-lined, will have an aeration system to supply the oxygen for converting ammonia to nitrates through nitrification. The ammonia rich effluent from the Anoxic Basin will discharge to the Aeration Basin, which has an opening depth of approximately fifteen feet. The Aeration Basin will have a minimum detention time of approximately twelve days at peak design flow and approximately forty-two days during colder months. The effluent from the Aeration Basin will flow by gravity to the two Biosolids Storage Basins. The effluent nitrogen will be primarily in the nitrate form, although at considerably reduced concentration due to the anoxic denitrification step.

Biosolids Storage Basins
The biosolids generated in the Aeration Basin will settle in the Biosolids Storage Basins before discharging to the Irrigation Storage Basin.

The Biosolids Storage Basin will serve two functions. The first function will be to provide storage for the biosolids for a several year period (three to six years) to encourage the reduction in volume of the biosolids through anaerobic decomposition. The estimated quantity of nitrogen in the biosolids is seven to eight percent of the dry weight solids.

The second function of the storage basin will be to create the benthic oxygen demand from the stored sludge. The bottom area of the storage basin will be sized to provide the capability of further denitrifying some of the nitrate remaining in the Aeration Basin effluent. The effluent from the Biosolids Storage Basin will discharge to the Irrigation Storage Basin.

Irrigation Storage Basin
The wastewater will flow by gravity to the Irrigation Storage Basin after the solids have been deposited in the Boisolids Storage Basin. Approximately six months of storage will be provided. There will be a minimum depth of two feet remaining in the basin at all times. The stored water will be pumped into the irrigation piping system, which will discharge to the irrigation system (primarily center pivots).

Value Added Technologies
The Value-Added technologies are designed to meet the nitrogen reduction requirements through offsite export and sale of organics and nutrients in a product form (fuel, fertilizer, etc.). The Internal Recirculation System (IRS) (patent pending) is a means to concentrate the dilute wastewater flow from PSF's barns to concentrated slurry. Downstream of the IRS, PSF will use a chemically enhanced thickening process as a means to remove most of the solids and nutrients from the CAFO waste. The thickened waste can then be dried to produce a fertilizer or for use as a feedstock in an advanced waste to energy process.

The IRS Process
The IRS is designed to condition and concentrate hog waste up to eight percent Total Solids ("TS"). This will be roughly an increase of forty times the solids content (from 0.2 percent TS to 8 percent TS) from the discharge slurry typically produced by a high volume recycle flush system using lagoon supernatant. A detailed technical description of the IRS being evaluated at the PSF farms is found in the 1999 and 2000 PSF Environmental Work Plans.

Chemically Enhanced Thickening Process
PSF is evaluating a chemically enhanced thickening process that is designed to remove approximately ninety percent of total solids, nitrogen and phosphorous. These solids and nutrients are processed to a form that can be trucked off the farm for further processing, or dried at the farm to a pelleted fertilizer. A detailed technical description of the process being evaluated by PSF is found in the 1999 and 2000 PSF Environmental Work Plans.

The process uses alkali treatment, crystallization, thermal drying, and pelletization to produce a dry granular product that is comparable in form to other fertilizer products.

The initial unit process is the crystallization of struvite (magnesium ammonium phosphate) by the addition of a soluble magnesium salt to a waste slurry. Struvite recovery is enhanced in the subsequent lime stabilization step by staged lime addition. Lime stabilization provides improved solid/liquid separation, pathogen reduction, conversion of various forms of nitrogen to ammonia for the stripping circuit, and increased phosphate recovery. Phosphate recovery typically exceeds 90%. Nitrogen recovery as a component of struvite crystallization is approximately 30%. After lime stabilization, most of the remaining ammonia is removed from the slurry by air stripping. The ammonia is recovered by reacting it with sulfuric acid to form ammonium sulfate. The ammonium sulfate can be blended into the fertilizer or sold to a commercial fertilizer manufacturer.

The next unit process is a clarifier and centrifuge for solid separation. Two process discharge streams exist. One is the concentrated solids in a cake form. The second process stream is termed the centrate and is the liquid phase discharge from the system. After flocculation, the slurry is continuously processed by the centrifuge. The final design should consistently yield a recovery rate of approximately ninety percent of the solids and nutrients. The centrifuge cake is predicted to average approximately thirty percent TS based on pilot plant operations. The centrate is returned to the clarifier. The clarifier overflow is the process effluent and will be discharged to an irrigation storage basin.

Thermal Conversion Process
PSF is evaluating a thermal conversion type waste to energy process that converts hydrocarbon and organic materials into fuel gas, light organic liquid, and a solid product that can be used as fuel or fertilizer. A detailed technical description of the Changing World Technologies process being evaluated by PSF is found in the 1999 and 2000 PSF Environmental Work Plans. PSF reserves the right to use an equivalent technology.

Implementation would deploy multiple IRS's at each PSF grow/finish site and a chemically

enhanced thickening plant constructed at a central location on each farm.

A thermal conversion waste to energy plant would be constructed at one location central to all PSF grow/finish farms. The manure solids would be trucked from the farms to the central plant.

There are five main steps in the process. The first step involves slurrying the organic feed with water. The slurry is then heated under pressure to a specific reaction temperature. After sufficient retention at pressure, the reacted product is flashed to a lower pressure to release the gaseous products. Next, the remaining dense slurry is reheated to drive off water and liquid oil from the solid product. Finally, the system employs physical phase separation of the oils from water.

Fuel gas produced by the process is a medium-BTU fuel-gas that could be used in gas turbines located near the plant for electric power generation. The oil product is typically a narrow range of light hydrocarbons or organic materials that also can be used for fuel, or converged into higher value products. The solid product either can be a fertilizer that is rich in micro nutrients or a fuel, depending on the carbon-forming character of the feedstock.

Other Technologies

If the Defendants develop and identify a new technology or a combination of technologies as a Selected Technology that are not currently described or scheduled herein, and such Selected Technology is approved by the United States under the criteria set forth in Paragraph 16 and Appendices A and D of the Decree, then the current Schedule shall not apply at those farms where Defendants implement such new technology. Instead, the Defendants, as part of the technology selection process set forth in Section VI and Appendix H of this Decree, shall propose a revised design/permitting and construction/start-up schedule for those farms. The revised schedule shall be reviewed and approved or disapproved by the United States pursuant to Section VIII and Appendix H of the Consent Decree.

Selected Technology Determinations

By November 1, 2002, Defendants shall complete pilot testing and feasibility evaluation of the chemically enhanced thickening process, the on farm drying and pelletizing processes (fertilizer), the thermal conversion process for regional energy plants, and the Nitrification/Denitrification technology, and identify which combinations of these technologies, if any, can be identified as a Selected Technology.

By April 1, 2003, Defendants shall identify the Selected Technology for Whitetail, Green Hills, Valley View, South Meadows, Terre Haute, and Badger/Wolf/Brantley.

By April 1, 2004, Defendants shall identify the Selected Technology for Somerset, Locust Ridge, Homan, Hedgewood, and Ruckman.

Initial Whitetail Technology

By December 31, 2001, Defendants shall complete construction and apply for the operating permit for the original Whitetail design on three of nine sites. Within 30 days of receipt of the operating permit, Defendants shall begin operating the system.

Nitrification/Denitrification Technology

Defendants have applied for a construction permit for a central nitrification and denitrification system design on six of nine Whitetail sites. Within 240 days of receipt of the construction permit, Defendants shall complete construction and apply for the operating permit. Within 30 days of receipt of the operating permit, Defendants shall begin operating consistent with the monitoring requirements of Appendix C.

By September 1, 2003, if Nitrification/Denitrification is the Selected Technology for Green Hills, Valley View, and South Meadows, or for Terre Haute and Badger/Wolf/Brantley, Defendants shall submit construction permit applications for the central Nitrification/ Denitrification systems. Within 365 days of receipt of the construction permits, Defendants shall complete construction and apply for the operating permits. Within 30 days of receipt of the operating permits, Defendants shall begin operating consistent with the monitoring requirements of Appendix C.

By September 1, 2004, if Nitrification/Denitrification is the Selected Technology for Homan, Hedgewood, and Ruckman, Defendants shall submit construction permit applications for the central Nitrification/Denitrification systems. Within 365 days of receipt of the construction permits, Defendants shall complete construction and apply for the operating permits. Within 30 days of receipt of the operating permits, Defendants shall begin operating consistent with the monitoring requirements of Appendix C.

By September 1, 2005, if Nitrification/Denitrification is the Selected Technology for Somerset and Locust Ridge, Defendants shall submit construction permit applications for the central Nitrification/Denitrification systems. Within 365 days of receipt of the construction permits,

Defendants shall complete construction and apply for the operating permits. Within 30 days of receipt of the operating permits, Defendants shall begin operating consistent with the monitoring requirements of Appendix C.

Value-Added Technologies

By September 1, 2003, if the chemical enhanced thickening process becomes the Selected Technology for all Green Hills and Valley View sites, Defendants shall submit construction permit applications for the on farm technology that includes the internal recirculation system and wet process side of the chemically enhanced thickening process technology. Within 365 days of receipt of the construction permits, Defendants shall complete construction.

By September 1, 2003, if the fertilizer process becomes the Selected Technology for all Green Hills and Valley View sites, Defendants shall submit all required construction permit applications for the fertilizer production plants. Within 365 days of receipt of the construction permits, Defendants shall complete construction and apply for the operating permits. Within 30 days of receipt of the operating permits, Defendants shall begin operating consistent with the monitoring requirements of Appendix C.

By September 1, 2003, if the thermal conversion process becomes the Selected Technology for all Green Hills and Valley View sites, Defendants shall submit all required construction permit applications for the Phase I thermal conversion plant. Within 365 days of receipt of the construction permits, Defendants shall complete construction and apply for the operating permits. Within 30 days of receipt of the operating permits, Defendants shall begin operating the on farm technologies consistent with the monitoring requirements of Appendix C.

By September 1, 2004, if the chemical enhanced thickening process becomes the Selected Technology for all Somerset, South Meadows, and Locust Ridge sites, Defendants shall submit construction permit applications for the on farm technology that includes the internal recirculation system and wet process side of the chemically enhanced thickening process technology. Within 365 days of receipt of the construction permits, Defendants shall complete construction.

By September 1, 2005, if the fertilizer process becomes the Selected Technology for all Somerset, South Meadows, and Locust Ridge sites, Defendants shall submit all required construction permit applications for the fertilizer production plants. Within 365 days of receipt of the construction permits, Defendants shall complete construction and apply for the operating permits. Within 30 days of receipt of the operating permits, Defendants shall begin operating consistent with the monitoring requirements of Appendix C.

By September 1, 2005, if the thermal conversion process becomes the Selected Technology for all Somerset, South Meadows, and Locust Ridge sites, Defendants shall submit all required construction permit applications for the Phase II thermal conversion plant. Within 365 days of receipt of the construction permits, Defendants shall complete construction and apply for the operating permits. Within 30 days of receipt of the operating permits, Defendants shall begin operating the on farm technologies consistent with the monitoring requirements of Appendix C.

By September 1, 2005, if the chemical enhanced thickening process becomes the Selected Technology for all Ruckman, Homan, and Hedgewood sites, or for Terre Haute and Badger/Wolf/Brantley, Defendants shall submit construction permit applications for the on farm technology that includes the internal recirculation system and wet process side of chemically enhanced thickening process technology. Within 365 days of receipt of the construction permits, Defendants shall complete construction.

By September 1, 2006, if the fertilizer process becomes the Selected Technology for all Ruckman, Homan, and Hedgewood sites, or for Terre Haute and Badger/Wolf/Brantley, Defendants shall submit all required construction permit applications for the fertilizer production plants. Within 365 days of receipt of the construction permits, Defendants shall complete construction and apply for the operating permits. Within 30 days of receipt of the operating permits, Defendants shall begin operating consistent with the monitoring requirements of Appendix C.

By September 1, 2006, if the thermal conversion process becomes a Selected Technology for all Ruckman, Homan, and Hedgewood sites, or for Terre Haute and Badger/Wolf/Brantley, Defendants shall submit all required construction permit applications for the Phase III thermal conversion plant. Within 365 days of receipt of the construction permits, Defendants shall complete construction and apply for the operating permits. Within 30 days of receipt of the operating permits, Defendants shall begin operating the on farm technologies consistent with the monitoring requirements of Appendix C.

APPENDIX B
Lagoon Integrity Testing

I. Hickory Creek Lagoons 1 and 2

Within three months of the entry of this Consent Decree, Defendants shall conduct investigations at Hickory Creek Lagoons 1 and 2. These two lagoons have been selected in consideration of their proximity to a municipal water supply system.

Defendants shall conduct electromagnetic conductivity surveys of the soil masses around the perimeter of each lagoon. The electromagnetic conductivity survey shall be performed to evaluate subsurface soil/hydrogeologic conditions. The survey shall be capable of discerning sand lenses and other more permeable or saturated deposits.

Within 60 days of completion of the electromagnetic conductivity survey, Defendants shall submit a report to the United States on their findings and conclusions. If the report identifies anomalies or other data which indicates there may be leakage above the Missouri seepage standards, unless such anomaly or data is otherwise satisfactorily accounted for by other means, Defendants shall submit a workplan to the United States providing for a more intrusive investigation that may include monitoring wells to determine whether Missouri seepage standards are being exceeded.

Within 60 days of completion of the work set forth in the intrusive investigation workplan, Defendants shall submit a report to the United States on their findings and conclusions.

Should the above investigation establish that Missouri seepage standards are being exceeded, Defendants shall submit a remedial action workplan to meet the Missouri seepage standard. The remedial action workplan will be submitted within 60 days of submittal of the intrusive investigation report.

II. Lagoon Shallow Seepage Investigations

Within three months of the entry of this Consent Decree, Defendants shall conduct a shallow seepage investigation at the lagoons identified below:

- Scott Colby 3, 4 and 5
- Ruckman 9, 10, 11 and 15
- Whitetail 1 through 9
- Green Hills 10/11 (2 stage lagoon)
- Wiles 1
- South Meadows 1
- Terre Haute 11

The investigation will consist of the following:

1. A detailed visual inspection of the entire berm surrounding each lagoon, and of the area adjacent to the berm, will be performed by a qualified hydrogeologist or engineer. It is anticipated that this inspection will require two circuits around each lagoon; one on the top of each berm and one just beyond the extent of the berm structure (outside toe of the lagoon). This inspection will be performed to specifically look for significant soil cracking, subsidence and seepage. Any seeps detected will be sampled, and tested as described in Paragraph 7 below.
2. After completion of the visual inspection of each berm and lagoon, the hydrogeological consulting/field services firm will collect a representative water sample from the lagoon. Each lagoon sample will be analyzed for field parameters using screening level field techniques (i.e. portable "HACH"-type field measurement devices) for chloride and nitrogen species (ammonia, TKN, nitrate).
3. The hydrogeologist will, using all available information (topographic maps, soil surveys, lagoon construction documents, previous investigations, and site inspections), identify the likely groundwater flow direction beneath each of the lagoons. Based upon the predicted groundwater flow direction, the hydrogeologist will identify one up-gradient probe hole site and three down-gradient probe hole sites perpendicular to the direction of groundwater flow for each lagoon.
4. The geological consulting/field services firm will drive small diameter probe holes to a depth of 12-15 feet, or refusal, whichever occurs first, at each site (if the geological consulting/field services firm encounters groundwater at a shallower depth, bore hole depth may be reduced accordingly). It is anticipated that the holes will be driven using Geoprobe^{TM}-type direct-push technology.
5. The geological consulting/field services firm will inspect soil column samples to identify any saturated soil layers. If groundwater is encountered, its level will be measured, and it will be sampled and analyzed as described in Paragraph 7 below.
6. The geological consulting/field services firm will establish relative surface elevation at each probe site for the purpose of establishing/verifying the equilibrated groundwater table gradient. After reaching a depth of apparent groundwater saturation, the probe will be retracted 1 to 2 feet to allow groundwater to enter the probe hole for sampling and equilibration purposes. Groundwater will be allowed to accumulate in the probe hole for a period of 8 to 12 hours. If no accumulation is noted, the probe hole will be abandoned. Should groundwater accumulation occur, the surface level of any accumulated groundwater will be measured, sampled and analyzed as described in Paragraph 7 below. If one or more saturated soil layers are identified, the geoprobe will be retracted to the uppermost of those layers.
7. Any seep water and ground water samples collected will be tested in the field by the hydrogeo1ogist or geological consulting/field services firm using screening level field techniques (i.e. portable "HACH"-type field measurement devices) for chloride and nitrogen species (ammonia, TKN, nitrate).

APPENDIX C
Testing Criteria for Technology Alternatives

I. Class IA Farms - Monitoring Requirements to Demonstrate Achievement of a 50 Percent Nitrogen Reduction

A. For any Nitrification / Denitrification technology, Defendants shall meet the performance requirement set forth in Paragraph 16 of the Decree based on a twelve-month, flow-weighted average concentration in the effluent sent from each irrigation storage basin to land application. To calculate the effluent concentration, a minimum of one sample shall be collected from the effluent sent to land application from each irrigation storage basin in any month when land application from the basin occurs. Flow-weighted averaging shall commence on September 1 after commencement of operation unless the system commences operation during May, June, July, or August. If it commences operation during May or June, averaging shall commence on November 1. If it commences operation during July or August, averaging shall commence on September 1 of the next calendar year. For the first such system to commence operation, if Defendants cannot achieve compliance with the performance requirements in Paragraph 16 of this Decree within the above specified time frames because further adjustments need to be made to the system to comply, Defendants may request that the flow-weighted averaging begin up to one year after the commencement of operations to provide sufficient time to make such adjustments. EPA shall grant that request if Defendants have used diligent efforts to make the adjustments needed to meet the performance requirements in Paragraph 16 of this Decree.

An illustration of the flow-weighted average calculation to be applied to each irrigation storage basin is set forth in Exhibit 1 to this Appendix. The illustration includes the definition of "flow weighted average." The example also indicates when the start of flow-weighted averaging begins, based on the hypothetical data presented.

B. For any Selected Technology other than Nitrification / Denitrification, compliance monitoring shall begin either (a) 90 days from the first day of operation or (b) after a reasonable start-up period using sound engineering judgment, whichever is later.

II. Nitrification and Denitrification System Operational Monitoring

Upon commencing operation, PSF shall conduct such monitoring as is necessary to verify that the Nitrification / Denitrification system is being properly operated and is functioning as designed. Such monitoring shall include:

PH (aeration basin)
BOD5 (influent and aeration effluent)
Mixed liquor suspended solids (aeration basin and anoxic basin)
Temperature (aeration basin and anoxic basin)
Dissolved oxygen (aeration basin)

Total Kjeldahl nitrogen (influent and effluent)
Nitrite nitrogen (effluent)
Nitrate nitrogen (effluent)
Ammonia nitrogen (influent and effluent)
Alkalinity (influent and aeration basin)

Monitoring the influent shall mean collecting a representative sample of the combined flow from all anaerobic lagoons that lead to a defined treatment system (aeration basin or anoxic basin).

Monitoring the effluent shall mean (1) collecting a representative sample of the discharge from the final clarification step following the aeration basin and (2) collecting a representative sample from the irrigation storage basin.

The system shall be considered to be properly operated and functioning as designed if the aeration basin influent and effluent analysis demonstrates that the ammonia nitrogen is being converted to nitrate nitrogen.

III. Class IA and Class IB Monitoring

Nitrogen monitoring parameters and frequency during months of land application are identified in the following table:

Parameter	Sample Type	Frequency
TKN-N	Grab	Monthly
NH3-N	Grab	Monthly
NO3-N	Grab	Monthly
NO2-N	Grab	Monthly
Flow	24-hour total	Daily

Sampling and testing methods shall comply with 40 C.F.R. Part 136.

APPENDIX D
Performance Standards

I. Class IA Farms

For the following Class I A farms, the twelve-month, flow-weighted average nitrogen concentration (calculated pursuant to Section I of Appendix C) for each treatment system shall not exceed the Nitrogen Concentration Limits set forth below:

Farm	**A Baseline TKN Nitrogen Average (mg/L)**	**B Baseline Nitrate Nitrogen Average (mg/L)**	**C* Nitrogen Concentration Limit (mg/L) (TKN plus nitrate)**
Green Hills	1,530	0.45	765
Hedgewood	1,360	0.53	680
Homan	927	0.16	464
Locust Ridge	1,637	0.35	819
Ruckman	1,020	1.28	510
Somerset	1,541	0.55	771
South Meadows	1,534	1.75	768
Valley View	1,676	0.27	838
Whitetail	1,708	0.27	854
Badger/Wolf/Brantley	938	0.34	469
Terre Haute	1,050	1.22	526

II. Class IB Farms

For the following Class IB farms, the nitrogen concentration of the effluent sent from the irrigation basin to land application shall not exceed the Nitrogen Concentration Limits set forth below:

Farm	A Baseline TKN Nitrogen Average (mg/L)	B Baseline Nitrate Nitrogen Average (mg/L)	C* Nitrogen Concentration Limit (mg/L) (TKN plus nitrate)
Wade/Webster	974	0.68	487
Peach/Perkins	994	0.28	497

*/ The Nitrogen Concentration Limit (C) is 50% of the sum of the historical Baseline TKN Nitrogen Average (A) and the historical Baseline Nitrate Nitrogen Average (B). C = 0.50 (A+B).

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Appendix E
Best Management Practices

Unless otherwise specified in this Appendix, Defendants shall implement the following Best Management Practices within 120 days after entry of this Decree or by March 1, 2002, whichever is later:

I. Spill Control Program

A. Defendants will maintain operating pressures for underground lines below the design provisions described in Uni-Bell PVC Pipe Association Technical Report UNI-TR-6-97 entitled PVC Force Main Design. An appropriate pipe class will be selected based on long-term and short-term (surge) pressures based on a Factor of Safety of 2.0. Fatigue will be checked based upon a 50 year service life.

B. Defendants shall implement the following practices with respect to their underground irrigation piping system:

(1) Maintain a program to inspect system integrity comparable to the procedure set forth in Exhibit 1 to this Appendix;
(2) Maintain a system designed to automatically discontinue pumping (e.g., a Murphy switch) in the event of a pressure drop which could indicate a leak from the system. This requirement shall apply when traveling guns are used as the method of land application; and
(3) Implement a training program for repair work on underground lines.

C. Defendants shall implement the following practices with respect to spills:

(1) Promptly notify any property owner whose land or other property may be affected by the spill.

(2) Investigate each incident which results in a release of greater than 1000 gallons of effluent, any release that reaches surface waters, or any recurring incidents at the same location. An incident investigation shall be initiated as promptly as possible, but not later than 48 hours following the incident. An incident investigation team shall be established and consist of at least one person knowledgeable in the process involved, including a contractor employee if the incident involved work of a contractor, and other persons with appropriate knowledge and experience to thoroughly investigate and analyze the incident. A report (Incident Report) shall be prepared at the conclusion of the investigation which includes at a minimum;

(a) Date of incident;
(b) Date investigation began;

(c) A description of the incident; and
(d) Any recommendations resulting from the investigation.

(3) Establish a system to promptly address and resolve the Incident Report findings and recommendations. Resolutions and corrective actions shall be documented.

(4) Corrective actions shall include the remediation and repair of any property affected by any waste that crosses property lines. This requirement is conditioned upon Defendants' ability to obtain access to the affected property. Nothing herein limits any rights of the affected property owner.

(5) As part of Defendants' ongoing Community Advisory Panel (CAP) program Defendants shall hold regular meetings where the Defendants shall provide the participating citizens with incident reports which shall include the resolution and corrective actions taken and implemented in response to the reported incidents.

D. Defendants will discontinue the use of aluminum irrigation piping in areas where it is necessary to cross roads or surface water bodies with temporary piping due to the number and close spacing of joints. Instead, Defendants shall use flexible pressure rated hoses that are long enough to place the connection couplings off of the road or surface water body.

E. Defendants shall install and maintain secondary safety caps on irrigation risers that are within 500 feet of a stream, pond, lake, public road or property line.

F. After implementation of nitrogen-reducing effluent treatment systems, Defendants shall limit the use of aboveground piping to that necessary for connecting from a field riser to the application equipment used within that field. Defendants may use aluminum irrigation piping for temporary situations, including but not limited to, one-time application events that are not anticipated to recur on an annual basis.

II. Land Application Practices

A. Application Method Selection.

(1) Current application methods and their considerations for use include but are not limited to:

(a) Center pivots - Fields must be of sufficient size and shape to allow installation of center pivot systems. Fields must allow the pivot to move in a circular fashion and have a large enough area that is free of trees, ditches or areas of high slope. Other considerations include being able to use the pivot in a shorter radius size in multiple adjacent locations (i.e., a towable pivot configuration) or in a longer length single point location. Wind drift is less of factor with center pivots (as compared to

traveling guns) since drop nozzles are used so that the application is near the ground.

(b) Injection/incorporation systems - Subsurface injection is only possible in row crop fields in the spring before planting or in the fall after harvest. Wet weather can prohibit application in the spring before planting. Freezing weather can limit fall application. For hay ground, the Aerway incorporator can be used only when the grass is short enough so that it will not be damaged by the incorporation tines. This limitation means that the Aerway is limited to use in early spring, for a few weeks after the first cutting of hay, in the fall after the second cutting of hay, or at similar times after grass fields have been grazed by cattle. Field size, slope and terrain conditions are also limiting factors. Small fields may not be suitable for these methods due to risk of crossing or kinking a hose resulting in a leak and release of effluent. Fields surface conditions must be free of protruding rocks, roots, or other objects that could rupture a hose. Wind drift is not a factor when using these methods since the application is on or below the soil surface.

(c) Traveling booms - Areas of higher slope limit use of the traveling boom to prevent tipping of the boom arm. Crop limitations for tractor mounted systems are similar to those listed for injection and incorporation. Hose reel retractable booms cannot be used over taller corn crops. Wind drift can limit use of traveling booms, but is less of a factor as compared to traveling guns.

(d) Toolbar - Allows for even placement of effluent across the entire field including up to the buffer area. Wind drift is not a factor since the effluent is applied close to the ground. Tall or mature hay may preclude use of the implement to avoid damage to the hay crop. To avoid crop damage, the tool bar may not be used on crop fields after the crop germinates. Field slopes and terrain may also limit use of this implement.

(e) Traveling guns - Wind drift can be a limiting factor.

(f) Contract applicators - Application methods currently used by contract pumpers include: (i) tanker wagon drawn by tractor capable of both surface or subsurface application; (ii) tractor drawn tool bar-type implements supported by flexible, umbilical hose; and (iii) tanker trucks that surface apply and that may be capable of subsurface application.

(2) Defendants shall use methods other than traveling guns for land application except where the use of other application methods is not reasonably practicable.

(3) Defendants shall adopt the following practices with respect to irrigation systems:

(a) Setbacks.

(i) Defendants shall not use traveling guns, tanker wagons or tanker trucks within ¼ mile of a residence which is not owned by Defendants or not within the property boundaries of a spreading agreement. The setbacks and buffers for residences owned by Defendants or within the property boundaries of a spreading agreement shall remain as set forth in Defendants' permits;

(ii) The wetted perimeter of all traveling guns shall be no less than 300 feet from a property line and no less than 100 feet from surface water drainages;

(iii) Application from tanker wagons and tanker trucks shall be no less than 300 feet from a property line and no less than 100 feet from surface water drainages;

(iv) In the event of a discharge after the date of lodging of this Decree from PSF-owned or CGC-owned property from the use of traveling guns, tanker trucks or tanker wagons, all future land applications (regardless of method) shall be subject to the following setbacks:

(A) If the discharge was to a permanent stream, the setback shall be 200 feet from that stream;

(B) If the discharge was to an intermittent stream, the setback shall be 100 feet from that stream, so long as there was free-flowing water in the stream at the time of the discharge;

(v) In the event of a discharge from the use of any type of application equipment after the date of lodging of this Decree from PSF-owned or CGC-owned property onto a neighbor's property that is not subject to a spreading agreement, all future land applications at that site shall be subject to an additional setback of 50 feet from the downgradient property line over and above any setback established by permit; each additional discharge onto a neighbor's property from that site shall increase the setback from the downgradient property line an additional 50 feet, up to a maximum setback of 300 feet from the donwgradient property line. Property boundary lines for PSF-owned and

CGC-owned fields and spreading agreement fields are set forth in Defendants' Standard Operating Procedures (SOP).

(b) Defendants shall monitor fields where traveling gun irrigation equipment is used continuously. Such monitoring shall include visual observation of the field wetted perimeter and the traveling gun equipment. "Continuous" is defined as an employee on foot or by means of a vehicle moving between different fields or application equipment in close proximity so that the interval between observations should not exceed 15 minutes. During a visual inspection, the employee will observe the buffer areas to verify that no mist or run-off is entering the buffer areas. If mist or run-off is entering the buffer areas, the equipment shall be relocated. Aboveground lines shall be monitored to verify that there are no excessive leaks at joints. Upon discovery of a potential runoff or pipe leak situation, the system shall be immediately shutdown.

(c) Defendants shall monitor tractor mounted drag hose application equipment such as injectors or Aerways during turn around at the ends of fields. During visual inspection, the employee will observe the field surface and adjacent buffer area to verify that no run-off is entering the buffer areas. If run-off is entering the buffer areas, the turn around locations shall be relocated or the equipment shut down.

(d) When Defendants utilize the services of contract applicators to spread effluent, Defendants shall: i) provide and document appropriate orientation of the contract applicators with Defendants' SOP's and permit requirements relative to application of effluent; and ii) monitor the effluent application by contract applicators.

(e) In the event Defendants desire to use land application equipment and practices other than those described in Paragraph II.A.(1) above, the Defendants shall obtain approval from the State of Missouri for that practice and any additional appropriate BMPs. Defendants shall timely notify the parties of any such approvals.

(f) Defendants agree that they will conduct an on-site review of the four application sites identified below to evaluate other measures which Defendants believe they can reasonably implement to reduce the chances of a future discharge from their property to the specified adjoining properties. Defendants will include the identified property owner as well as representatives of CLEAN in such on-site review, at a time mutually convenient to all. The four application sites are as follows:

(1) Whitetail Farm where adjoined by property owned by Jerry McKinley

(2) Whitetail Farm where adjoined by property owned by John Laughlin
(3) Whitetail Farm where adjoined by property owned by Fred Torrey
(4) Ruckman Farm where adjoined by property owned by Melbourne Fletchall.

B. **Acreage Reduction Criteria.** After implementation of treatment systems to meet the requirements of this Decree, Defendants will perform a field-by-field assessment of all permitted land application areas at each Class1A farm on or before the performance standard compliance date as established in Appendix C. The purpose of the assessment will be to qualitatively identify water quality and odor related factors that can be used to help identify fields or areas that will be removed from land application. The factors that will be considered in order of priority are as follows:

(1) Field slope - Defendants will eliminate traveling gun use on land with over ten percent slope;
(2) Distance to surface water (*e.g.*, stream or lake) - Portions of fields that border surface waters will be eliminated from land application or an increased buffer area will be imposed;
(3) Distance to residences - Distance to occupied residences not owned by Defendants other than residences located on spreading agreement properties will be evaluated to identify fields or areas for removal from land application. Where fields near a residence cannot be practicably removed from land application, Defendants will strive to maximize the set back distance for traveling gun application to exceed that set forth in II.A.3(a).;
(4) Crop productivity - The least productive land in terms of nutrient uptake (i.e., CRP) will be considered for elimination; and
(5) Tile intake locations - Terraced fields with tile drainage systems will be considered to reduce acreage from land application.

C. Defendants shall post a weekly irrigation schedule on an Internet Website available for public review. The schedule shall be posted on or before Friday or the last business day of the preceding week. The schedule shall identify those farms where irrigation is currently planned for the coming week. Although Defendants hope that they will be able to implement this schedule, it may have to be modified due to factors such as weather (e.g. rain, temperature, or wind), soil conditions, pre-application soil test results, availability of equipment or staff, or unanticipated fertilization or farm activities by third parties or changes in planting schedules. No land will be irrigated that is not included in a posted irrigation schedule.

III. Lagoon Maintenance

A. Defendants shall annually collect sludge depth measurements from twenty percent of the lagoons at each company-owned farm. The measurement shall be the average of the

depth of four representative locations in the lagoon.

B. Defendants shall annually analyze the sludge from twenty percent of the lagoons at each company-owned farm for the following parameters:

Total Kjeldahl Nitrogen
Phosphorus (total)
Potassium (total)
Sulfur (total)
Calcium (total)
Magnesium (total)
Sodium (total)
Iron (total)
Manganese (total)
Copper (total)
Zinc (total)
Ammoniacal Nitrogen
Nitrate Nitrogen
Arsenic (total)
Barium (total)
Cadmium (total)
Chromium (total)
Lead (total)
Mercury (total)
Molydbenum (total)
Nickel (total)
Selenium (total)
Silver (total)
Percent Solids
pH
Aluminum (total)
Percent Volatile Solids

C. The level of accumulated sludge from the anaerobic lagoons shall not exceed thirty-five percent of minimum operating level. Sludge removal shall be by either dewatering the lagoon and mechanically agitating the sludge prior to pumping or direct dredging from the lagoon. The sludge land applied by Defendants shall be land applied in accordance with recommended agronomic practices for the most limiting nutrient or metal. Should phosphorus be the limiting nutrient, the phosphorus application rate shall be determined by an index system such as that being developed by the Missouri NRCS and University of Missouri.

IV. Dust Reduction Practices. Defendants shall continue to implement practices at their finishing facilities to minimize dust generation. Such practices will include continuation of pelletizing feed and the addition of fat to feed to minimize dust production. Prior to

discontinuing these practices, Defendants shall notify the United States.

V. **Milan Truck Wash.** Defendants shall maintain operational controls to prevent the discharge of rinsate water into waters of the United States from the Milan truck wash.

VI. **Community Outreach.** Defendants shall post a weekly update on their publicly available Internet Website reporting on new environmental developments in their operations in Missouri, including environmental practices, updates on the investigation of alternative waste technologies and information related to effluent management practices.

APPENDIX F
Air Emissions Monitoring

I. Baseline Emissions Measurements

A. Defendants shall conduct air emissions measurements at one uncovered lagoon and one unaltered production building to estimate baseline emissions from Defendants' facilities, as further described below.

B. To estimate lagoon emissions, air sampling and flux chamber (wind tunnel) measurements of hydrogen sulfide, total non-methane volatile organic compounds ("VOCs"), and ammonia will be conducted continuously for seven days each month for a period of nine to twelve months beginning in January 2002 on one uncovered lagoon in accordance with the monitoring procedures set forth in Zahn et al., (2001), Abatement of Ammonia and Hydrogen Sulfide Emissions from a Swine Lagoon Using a Polymer Biocover, J. Air & Waste Manage. Assoc., 51:562-573. Representative odor samples will be collected periodically and will be evaluated using an olfactometry method approved by Dr. Albert J. Heber. In addition, representative samples will be collected during each monitoring event and analyzed for the following compounds: acetone, ethane, and methyl acetate. Such sampling and analysis will be sufficient to provide estimates of emissions of these compounds for use in determining compliance with applicable total non-methane VOC emission regulations. If the data obtained under this paragraph is from measurements made or supervised by Dr. James Zahn, then Dr. Zahn shall prepare a report on his work that shall immediately be made available for peer review.

C. To estimate emissions from production buildings, particulate matter (PM-100 and PM-10), hydrogen sulfide, total non-methane VOCs, and ammonia will be sampled continuously and simultaneously from one finishing building for a period of six months beginning in July 2002 using a mobile laboratory, and the period may be extended to February 2003 if necessary to obtain representative winter measurements. Set-up and debugging for the mobile laboratory shall occur in June 2002. Representative odor samples will be collected periodically and will be evaluated in the same manner as the lagoon odor samples. An air sampling system (Heber et al. *in press*) in the environmentally controlled lab will draw continuous air samples from two exhaust locations, ventilation inlet air, and outside air (blank). Gas and particulate matter concentrations will be measured automatically each day. Building static pressures will be monitored with differential pressure transmitters. The static pressure in the mobile laboratory will also be monitored to assure operation of the lab ventilation system and to record times of personnel entry. Ventilation rates will be determined by the following procedure: One fan from each building will be tested dirty in the fan test facility at the University of Illinois to determine the derated fan curves. Two new FANS (fan assessment numeration system) analyzers ($<\pm 2\%$ accuracy) will be tested simultaneously to calibrate them against the $\pm 2\%$ accuracy fan test chamber. The performance of the dirty fans will be compared against published fan curves. The calibrated FANS will then be used to measure airflow of all other fans in the barns before being installed on one fan of each building for continuous monitoring. In addition, run-time of the

APPENDIX G
Supplemental Environmental Projects

I. Oil Sprinkling Pilot Project

A. By July 2002, Defendants shall install an oil sprinkling system at one of its barns. This oil sprinkling system shall meet all design criteria requirements set forth in Section III below.

B. The oil sprinkling system shall be properly operated and maintained on this barn through the completion of the evaluation described in Appendix F.

II. Report on the Oil Sprinkling Pilot Project and Implementation

A. Within 60 days of completion of the evaluation described in Appendix F, Defendants shall submit a special report as required by Appendix H to the United States with the results of the evaluation of the oil sprinkling pilot and an estimate of the per barn capital and yearly operating costs. The report shall also include a proposed plan by Defendants to implement an oil sprinkling system on a wider basis at its facilities at a maximum number of barns as determined by:

1. the capital and annual operating costs identified in the report;

2. the total maximum cost of this SEP of $300,000; and

3. two years of operations.

The location of the barns will be selected based on proximity to property boundaries and local residences to maximize the benefit of this SEP. The oil sprinkling system shall be properly operated and maintained on the barns for two years. If the pilot test shows that the system only provides substantial dust reduction during certain times, Defendants may propose to operate the system only during such times.

B. This oil sprinkling system shall meet all design criteria requirements set forth in Section III below. If specifically approved by the United States, Defendants may propose to deviate from the design criteria below if such changes would increase the efficacy of the system or lower its costs or both. The proposed plan shall require completion of construction of the oil sprinkling system on all of the designated barns and acquisition of all necessary permits within two years of the United States' approval of the plan. Upon approval by the United States, Defendants shall implement the plan approved pursuant to this paragraph.

C. In lieu of a proposed plan to implement the oil sprinkling system, Defendants may propose an alternate SEP if they believe such a SEP would, with respect to emissions from

APPENDIX H
Quarterly and Special Reports

I. Quarterly Reports

A. Defendants shall submit an initial progress report to all Parties within 45 days of the close of the calendar year quarter during which this Consent Decree is entered and a quarterly progress report within 30 days of the close of each calendar year quarter thereafter, through and including the quarter in which this Consent Decree is terminated pursuant to Section XXII of this Consent Decree. If requested by the United States, Defendants shall provide briefings for the United States, at a time and in a manner mutually agreed upon by the United States and the Defendants, to discuss the progress of implementation of this Consent Decree.

B. The initial progress report and each quarterly progress report shall contain the following information: (1) a brief description of the actions taken by the Defendants towards achieving compliance with this Consent Decree during the reporting period, including actions related to compliance with the requirements set forth in Appendices A through G; (2) a summary of the results of any testing conducted pursuant to Appendices B, C, and F during the reporting period; (3) an identification of all instances of noncompliance with the performance standards set forth in Appendix D and any other failures known to the Defendants to comply with the requirements of this Consent Decree during the reporting period, the reasons for such failures to comply, and actions already taken or planned to be taken to correct such failures to comply; and (4) a brief description of the actions that the Defendants anticipate taking towards achieving compliance with this Consent Decree during the next quarter, including any possible delays or other problems that may affect compliance with the Consent Decree and the Defendants' anticipated actions to resolve such delays or problems.

II. Special Reports

A. The Defendants shall submit the following special reports identified below in accordance with the specified requirements and schedules:

(1) *Report on Completion of Evaluation and Recommendation of Selected Technologies*

a. By November 1, 2002, Defendants shall submit a special report to all Parties containing a detailed description of any technologies that were evaluated and are identified as Selected Technologies by Defendants by that date pursuant to Schedule 1 to Appendix A. The report may reference descriptions of the technology included in other relevant documents, provided that those documents are included as attachments to the report.

b. For any Selected Technology that is based on technologies described in

Appendix A, to the extent the Selected Technology varies from the design set forth in Appendix A, that variance shall be described in detail.

c. For each technology that is identified as a Selected Technology for one or more of Defendants' Class 1A Farms, Defendants shall include in their report all available data and information necessary for the United States to determine whether the performance standards, parameters and design requirements of the Consent Decree will be met by such technology, including at least three months of data from testing conducted in accordance with Appendix C and any and all available data in Defendants' possession regarding the expected ammonia and hydrogen sulfide emissions compared to the baseline treatment system.

d. If Defendants identify one or more technologies not described in Appendix A as a Selected Technology for implementation at some or all of their Class 1A Farms, they shall propose in the report a reasonable schedule for implementation of such technologies at those farms. The report shall state the reasons why the proposed schedule is reasonable given best efforts by the Defendants. In addition, if Defendants recommend that one or more technologies not described in Appendix A be implemented at some or all of their Class 1A Farms and the testing criteria in Appendix C would not be appropriate for those technologies, then Defendants shall also propose testing procedures to demonstrate that such technologies will comply with Appendix D and shall state the reasons why the proposed testing procedures would be more appropriate.

e. The United States shall review and approve or disapprove this report and the recommendations and so notify the Parties within 60 days of receipt of the report. The United States shall approve the report and the recommendations if the Selected Technologies are demonstrated to meet the applicable standards and design requirements set forth in the Consent Decree, Appendices A and D, and this Appendix.

(2) *Reports Recommending Implementation of Selected Technologies at Each Farm*

a. Defendants shall submit a special report identifying which Selected Technologies they propose to implement at each farm consistent with the Selected Technology Determinations deadlines set forth in the Schedule to Appendix A.

b. Each of these special reports shall state the basis for why the Defendants believe that the particular Selected Technology that they propose to implement at each farm is the most appropriate technology for that farm. The reports shall also confirm that all permitting, construction and operating

deadlines will be consistent with the schedule set forth in the Schedule for Appendix A, or any approved amendments to that Schedule.

(3) *Report on Completion of the Implementation of Technologies at Defendants' 1A Farms*

a. Within 60 days of completion of implementation of the Selected Technologies at each of Defendants' Class 1A Farms listed in Exhibit 1 of Appendix A, Defendants shall submit a special report to all Parties certifying that the technologies have been implemented in accordance with the provisions of this Consent Decree, the Appendices, and any approved plan under Section II.A.(1). The report shall include as-built drawings signed and stamped by a professional engineer, except for items such as lagoon covers for which as-built drawings would not be useful or are not normally prepared under good engineering practices. The report shall also contain a narrative statement specifying when construction was completed and describing deviations, if any, from plans and specifications contained in the Appendices or any approved plan under section II. A.(1).

b. The United States shall review and approve or disapprove this report on the basis of whether the technologies were designed and constructed in accordance with the approved report under Section II.A.(1) of this Appendix and so notify the Parties within 60 days of receipt of the report.

(4) *Report Proposing a Work Plan for the Pilot Oil Sprinkling System*

a. Within 60 days of the entry of this Decree, Defendants shall submit a work plan for the design and construction of a pilot oil sprinkling system, including a set of standard operating procedures to govern the operation of the oil sprinkling system during the pilot project and during any subsequent operation. This report shall indicate on which barn the system will be installed and include a detailed description of the oil sprinkling system to be installed (consistent with Section III of Appendix G), construction milestones and completion dates, and the date by which the oil sprinkling system will be fully operational. In no event shall the work plan propose that the pilot system will be fully operational more than 120 days from the date of EPA's approval of the work plan or July, 2002, whichever is later.

b. The United States shall review and approve or disapprove the work plan on the bases of the applicable standards and design requirements set forth in the Consent Decree, this Appendix, and Appendix G and so notify the Parties within 30 days of receipt of the report.

(5) *Report on the Evaluation of the Oil Sprinkling SEP and Recommendation for Wider Implementation at Defendants' Farms*

a. Within 60 days of completion of the barn emission testing portion of Appendix F, Defendants shall submit a special report to all Parties on the estimated per barn itemized cost of installing and operating the oil sprinkling system more fully described in Appendix G. The report shall also include a proposed plan by Defendants to implement an oil sprinkling system on a wider basis at its farms.

b. In the report, Defendants shall propose a work plan for implementation of an oil sprinkling system on a wider basis at its farms. The work plan shall identify on how many and which barns Defendants propose to install an oil sprinkling system based on the criteria set forth in Section II of Appendix G. The work plan shall include construction milestones and completion dates and dates when the systems will be fully operational at each farm. In no event shall Defendants propose that the oil sprinkling system will be fully operational on all the selected farms more than two years after EPA's approval of the work plan. The report shall explain how the selection of each barn satisfies the criteria set forth in Section II of Appendix G. The report shall also describe and explain any deviations from the design criteria set forth in Section IV of Appendix G that Defendants believe would improve the effectiveness or reduce the cost of the system. Finally, the report shall describe and explain any proposals to not operate the system during certain times of the year.

c. Defendants may propose an alternate SEP if they believe such a SEP would, with respect to emissions from the barns, achieve better environmental results or equivalent environmental results at a lesser cost. The alternate SEP must require that the Defendants spend no less than $400,000 minus the capital and operating costs that the Defendants incurred in installing and operating the oil sprinkling pilot. The report shall describe in detail the proposed alternate SEP, including whether the proposed SEP is consistent with EPA's SEP Policy, an identification of all expected environmental benefits from the proposed alternate SEP, an explanation of why the Defendants believe that the alternate SEP would achieve better environmental results or equivalent environmental results at a lesser cost, and an accounting of the anticipated costs of the proposed SEP (s). The report shall also include a proposed schedule for implementing the alternate SEP. In no event shall the proposed schedule call for completion of implementation later than two years after notification by the United States approving Defendants' recommendations for an alternate SEP.

d. The United States shall review and approve or disapprove this report and the recommendations on the bases of the applicable requirements in the Consent Decree, Appendix G, and this Appendix and so notify the Parties within 30 days of receipt of the report.

(6) *SEP Completion Report*

a. Within 60 days of the completion of all approved SEP(s), Defendants shall submit a special report to all Parties certifying completion of the SEP(s). The SEP completion report shall contain the following information:

(i) a detailed description of the SEP(s) as implemented;

(ii) a description of any operating problems encountered and the solutions thereto;

(iii) itemized costs;

(iv) certification that the SEP(s) have been fully implemented pursuant to the Consent Decree, Appendix G, this Appendix, and all approved SEP plans; and

(v) a description of the environmental and public health benefits resulting from implementation of the SEP(s), including a quantification of the benefits and pollutant reductions, if feasible.

b. The United States shall review and approve or disapprove this report on the bases of the applicable requirements set forth in the Consent Decree, Appendix G, this Appendix, and all approved SEP plans within 30 days of receipt of the report.

(7) *Lagoon Testing Completion Report*

a. Within 60 days of the completion of the requirements in Appendix B, Defendants shall submit a special report to all Parties certifying completion of the lagoon testing. The lagoon testing completion report shall contain the following information:

(i) a summary of all data obtained, unless such data has already been provided to all Parties; and

(ii) certification that the lagoon testing has been fully implemented pursuant to the Consent Decree, Appendix B, and this Appendix.

b. The United States shall review and approve or disapprove this report on the bases of the applicable requirements set forth in the Consent Decree, Appendix B, and this Appendix, and so notify the Parties within 30 days of receipt of the report.

(8) *Air Emissions Monitoring Completion Report*

a. Within 60 days of the completion of the requirements in Appendix F, Defendants shall submit a special report to all Parties certifying completion of the air emissions monitoring. The air emissions monitoring completion report shall contain the following information:

(i) all data obtained, unless such data has already been provided to the United States;

(ii) a description of any problems encountered during implementation of

the air monitoring protocol and the solutions thereto;

(iii) itemized costs incurred in implementing Appendix F;

(iv) a detailed description of Defendants' response to any data showing that one or more of Defendants' farms is a minor or major source of air pollution as defined by applicable state and federal laws, including actions already taken and anticipated future actions; and,

(v) certification that the air emissions monitoring has been fully implemented pursuant to the Consent Decree, Appendix F, and this Appendix.

b. The United States shall review and approve or disapprove this report on the bases of the applicable requirements set forth in the Consent Decree, Appendix F, and this Appendix and so notify the Parties within 60 days of receipt of the report.

the barns, achieve better environmental results or equivalent environmental results at a lesser cost. Upon approval by the United States, Defendants shall implement the approved plan for an alternate SEP.

III. Oil Sprinkling System Design and Operation Criteria

A. Within 60 days of the entry of this Decree, Defendants shall submit a work plan in accordance with Appendix H for the design and construction of a pilot oil sprinkling system. The system shall be designed to spray 5 milliliters of oil per square meter (ml/m^2) per day. The system shall include an adequate number of nozzles to provide coverage of the pen areas most likely to generate dust. The system shall be capable of adding surfactant to the soybean oil at a ratio of 1:20 and producing a spray of water and oil mixed at a ratio of 5:1.

B. The Defendants shall submit for EPA approval a set of Standard Operating Procedures (SOP) to govern the operation of the oil sprinkling system during the pilot project and during any subsequent operation.

exhaust fans will be recorded by monitoring duty cycle of the fan motors.

D. The following equipment, or equivalent, will be used to determine concentrations of ammonia, hydrogen sulfide, total non-methane VOCs, and particulate matter:

1. Chemiluminescence ammonia analyzer consisting of a combination NH_3 converter and NO-NO_2-NO_x analyzer (0 to 50 ppm), Model 17C, TEI, Inc., Franklin MA;

2. Pulsed-fluorescence hydrogen sulfide analyzer which first converts H_2S to SO_2 (0 to 10 ppm), TEI Model 45C (U.S. E.P.A. Method EQSA-0486-060);

3. Continuous PM monitor(s), Model 1400a, Rupprecht & Patashnick Co., Inc., Albany, NY; and

4. TEI Model 55C Methane/Non-methane Analyzer.

E. Within 45 days after the date of entry of this Decree, a Quality Assurance Project Plan (QAPP) will be submitted for review and approval by an EPA Quality Assurance Officer prior to commencement of the air monitoring. The QAPP will outline appropriate procedures to ensure acceptable accuracy, precision, representativeness, and comparability of the data, and will specify the use of properly maintained and reliable instrumentation, sampling schedules, ready supply of spare parts, approved analytical methodologies and standard operation procedures, description of routine QC checks, external validation of data, well-trained analysts, field blanks, electrical backups, audits, documentation and format of data submission, and other procedural requirements. Chain of custody documentation will be used for samples of PM. Wetted materials for gas sampling will be Teflon, stainless steel or glass. All sampling flow rates will be calibrated. Certifications for calibration gases will include two NIST-traceable (if possible) analyses at least one week apart, and calibrations of gas analyzers will be conducted at least weekly.

II. Post-Technology Emissions Measurements

A. Within 30 days of the system reaching steady state operation, as defined in Exhibit 1 to Appendix C, continuous and representative dynamic flux chamber measurements will be completed at <u>one covered anaerobic lagoon and</u> one of each type of Nitrification/Denitrification treatment cell at Whitetail using a wind tunnel described by DiSpirito and Zahn, 1999. Wind tunnel measurements will be collected during a continuous 24-hour sampling period for each of the emission sources and shall be of sufficient duration to provide an estimate of emissions for comparison with other wastewater treatment methods to be evaluated under this project. Continuous measurements of gas concentrations (H_2S, NH_3, VOCs) from the chamber inlet and outlet will be collected using gas analyzers described by Zahn et al., 2001c.

For any cell covered with a permeable cover, the wind tunnel will be supported over the surface of the cover using a mechanical boom (Baumgartner et al., 2000). The dynamic flux chamber will be operated at the mean wind velocity for North Central Missouri (1.2 m/s) and calibration data for the system will be available at: http//www.nsric.ars.usda.gov. Results from each method will be compared to assess accuracy in flux measurement methods and abatement efficiency for the permeable cover.

One weather station located on the central lagoon berm at each site will be used to monitor lagoon solution temperature at the boundary interface (Zahn et al., 2001c), precipitation, wind velocity, solar radiation, wind direction, ambient temperature, and relative humidity.

B. Prior to commencing operation of a wastewater treatment technology other than Nitrification/Denitrification, including the Initial Whitetail Technology, Defendants shall submit to EPA a QAPP for approval by an EPA Quality Assurance Officer for conducting measurements of total non-methane VOCs, ammonia and hydrogen sulfide emissions from the treatment basins that comprise the treatment system in order to compare post-technology emissions to baseline emissions measured pursuant to Section I above. Measurements of total non-methane VOCs, ammonia and hydrogen sulfide emissions will be conducted as described in Section I, Paragraph B above, using the instrumentation described in Paragraph D and following QA/QC procedures as described in Paragraph E, or in accordance with another agreed-upon emissions measurement method.

C. The oil sprinkling pilot project will involve a pair of finishing barns. The pair will have one control building and one test building. The control building will be the building where the baseline emission measurements are conducted as specified under Paragraph I. C., above. The test building will be the adjacent building with an oil sprinkling system installed in accordance with Appendix G. Emissions measurements will be conducted at this test building concurrently with the measurements conducted at the control building following the same procedures. The control building and the test building will be operated and maintained in an identical manner, including flush cycles, feed inputs, livestock production cycles, and other activities to minimize or eliminate all potential emissions variables except for the oil sprinkling.

III. Cost of Monitoring and Equipment

Defendants have agreed to this monitoring plan based on the understanding that they will be able to contract with Purdue University (Purdue) and the United States Department of Agriculture Agricultural Research Service (ARS) to conduct the air emissions measurements described above. If an agreement is not reached with Purdue or ARS, then Defendants, with the cooperation and assistance of EPA, will use their best efforts to expeditiously obtain the services of persons who can provide monitoring of equivalent quality. The deadlines for conducting monitoring may be delayed as long as necessary for Defendants to obtain such services.

Defendants will supply the field equipment and supplies necessary to conduct the air

emissions measurements, including calibration equipment, meteorological equipment, flow control supplies, and miscellaneous disposable supplies such as tubing and fittings. Defendants also will provide an enclosed climate-controlled mobile trailer for use in collecting emissions measurements. This trailer will have a minimum open floor space of 5 feet wide by 10 feet long, will have 110 VAC 30 amp power service, indoor lighting, and high-intensity outdoor lighting directed at the sampling area on the lagoon. Purdue and ARS will supply analytical instruments for the determination of ammonia and hydrogen sulfide concentrations and will share these instruments if feasible. Purdue will supply some analytical instruments for the determination of particulate matter concentrations and the defendants will supply the additional instruments needed to conduct the simultaneous measurements described in Paragraph I.C., above.

Purdue will apply funds received from the Multi-State Consortium on Animal Waste to the cost of professional services and equipment necessary to conduct this air emissions monitoring, pending final approval by the Consortium. Additionally, Purdue will apply funds received from the Initiative for Future Agriculture and Food Systems (IFAFS) to the cost of professional services and equipment necessary to conduct this air emissions monitoring, pending final approval by IFAFS. Purdue has been informed and understands that Defendants expect that Purdue will use the funds from these sources for the emissions measurements described in this Appendix to reduce the total cost borne by Defendants.